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Service Manual

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PHILIPS

1.Technical Specifications,Connections,and Chassis Overview

Index of this chapter:

1.1 Technical Specifications
1.2 Connections
1.3 Chassis Overview

Notes:

Figures below can deviate slightly from the actual situation, due to the different set executions.
Specifications are indicative (subject to change)

1.1 Technical Specifications

1.1.1 Technical Specifications

Type	: LCD
Outline dimensions	: 760.0 mm(H) x 450.0 mm(V) x 47.4(D) mm (Typ.)
Pitch (mm)	: 510.75 .um(H) x 170.25um(V)
Pixel format	: 1366 horiz. by 768 vert. pixels
Color pixel arrangement	: RGB vertical stripe
Display surface	: Hard coating(3H),Anti-glare treatment of the front polarizer
Number of color	: 16,777,216 colors (8 bits)
Backlight	: 16 CCFL
Active area (WxH)	: 697.68mm X 392.26 mm
View angle	: Viewing angle free(R/L 176(Typ.),U/D 176(Typ.))
Contrast ratio	: Typical 1500 : 1
Luminance of white	: 500 cd/m□(Center 1 points, Typ.)

Supported video formats:

720 X 480i 60Hz
720 X 576i 50Hz
720 X 480P 60Hz
720 X 576P 50Hz
1280X 720P 50Hz
1280X 720P 60Hz
1920X1080i 50Hz
1920X1080i 60Hz
1920X1080p 50Hz
1920X1080p 60Hz

1.1.2 Sound

Sound system : 2CS, NICAM B/G (5.5-5.85), NICAM D/K (6.5-5.85), NICAM I (6.0-6.52), stereo for all (should be in line with RF system of each region)

Maximum power:2X5

1.1.3 Miscellaneous

Power supply
AC-input : 90V ~ 264VAC,50/60±2Hz
Power consumption :
Normal:
1.PC Mode TYP 100 W[Smart picture as "Normal"] (with audio)(26")
PC Mode TYP 145 W[Smart picture as "Normal"] (with audio)(32")
2.TV Mode TYP 100 W [Smart picture as "Rich"] (with audio)(26")
TV Mode TYP 145 W [Smart picture as "Rich"] (with audio)(32")
Maximum: 130W (with audio)(26")
170W (with audio)(32")
Power cord length : 1.8M
Power cord type : 3 lead with earth plug , plugable (US type)
Power indicator : LED (On: blue ,Sleeping mode: Amber)
Auto power saving : EPA, Nutek, VESA DPMS

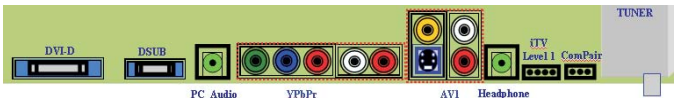
Horizontal scan : 30 ~ 61KHz
Vertical scan : 56 ~ 75 Hz

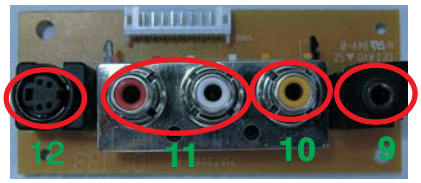
Ambient conditions:
Ambient temperature: 15°C ~35 °C
Relative humidity : 25% ~ 75%.

1.2 Connections

1.2.1 Signal Connector

Connectors: From Right to Left
1.Tuner: PAL D/K、I and NTSC-M
2.Compair：Rx/Tx communicate
3.AV1 audio IN : AV1 and S-Video shared audio R/L(RCA jack)
4.AV1 IN : Composite video input (AV1)
5.CVI IN : Component input with YPbPr format with audio R/L.
6.PC audio IN: audio R/L(mini-jack).
7.PC IN: VGA input (D-SUB connectors)
8.DVI-D : digital PC and video input
9.Earphone : earphone jack
10.AV2 IN : Composite video input (AV2 side)
11.AV2 audio IN : AV2 and S-Video side audio R/L(RCA jack)
12.S-Video IN : S-video input (S-Video side)





1.2.2 Input Signal

1.2.2.1 signal type

PC Signal

Analog Video	:15 pin D-Sub 0.7 Vp-p linear, positive polarity and separate Sync (TTL level, positive or negative polarity)
Digital Video	:24-pin DVI-D connect connector, Single TMDS link according to DVI specification
Audio signal	:Mini-jack audio input

TV Signal

RF signal : Aerial or cable via RF connector,
RF input level -10mV (80dBuV) typical, terminated with input impedance of 75Ω.
Transient response: < 250 nS.
Sound (5.5MHz) suppression: > 55dB.
Chroma (4.43MHz) suppression: > 25dB.
Y/C separation: > 20dB.

Support:
PAL B/G、I、NTSC-M

Component Y Pb Pr with RCA connector (Video , Audio input)
Specification
Video Y : 700mV, Pb, Pr, : ±350mV,
Impedance : 75Ω
Audio : L/R input
Nominal : 0.5 V rms.
Maximum : 1.5 V rms. Impedance > 10 kΩ
Note : the input will be overloaded when the signal > 1.5 V rms.

Support: 480i/p, 720p/60Hz, 1080i/60Hz

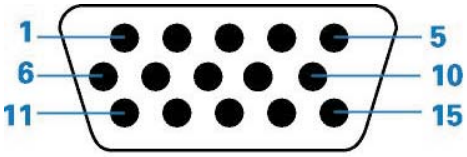
S-Video with S terminal (Video, Audio input) Specification
Video - Y : 1Vpp , C : 300 mV pp
-Impedance : 75Ω
Audio L/R input (share with Composite Audio input)
Nominal : 0.5 V rms.
Maximum : 1.5 V rms. Impedance > 10 kΩ
Note : the input will be overloaded when the signal > 1.5 V rms.

Support : PAL, NTSC and SECAM colour system

Composite with S terminal (Video, Audio input) Specification
Video - : 700mV Video, 300 mV -Sync
Impedance : 75Ω
Audio L/R input (share with Composite Audio input)
- Nominal : 0.5 V rms.
Maximum : 1.5 V rms, Impedance > 10 kΩ
Note : the input will be overloaded when the signal > 1.5 V rms.

Support : PAL, NTSC and SECAM colour system

D-sub Pin assignment

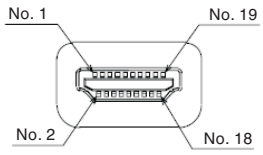


PIN No.	SINGNAL		PIN No.	SINGNAL
1	Red video input		9	DDC +5V
2	Green video input /SOG		10	Logic ground
3	Blue video input		11	GND
4	GND		12	Serial data line (SDA)
5	GND- cable detect		13	H. Sync / H+V
6	Red video ground		14	V. Sync
7	Green video ground		15	Data clock line (SCL)
8	Blue video ground			

TV video input /output connectors

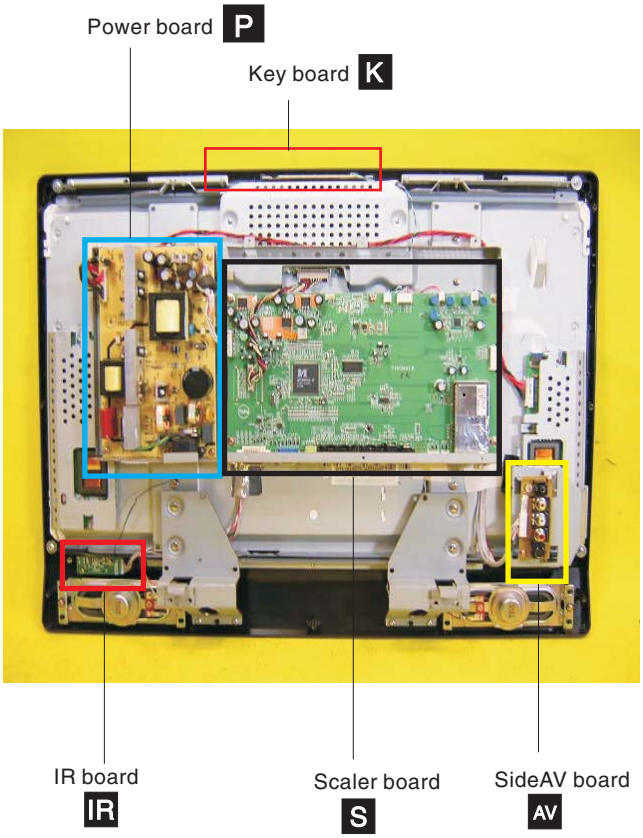
A. HDMI for digital Video / Audio interface with pin assignment as follows:

Type A Connector



PIN No.	SIGNAL
1	TMDS Data2+
2	TMDS Data2 shield
3	TDMS Data2-
4	TMDS Data1+
5	TMDS Data1 shield
6	TMDS Data1-
7	TMDS Data0+
8	TMDS Data0 shield
9	TMDS Data0-
10	TMDS Clock+
11	TMDS Clock Shield
12	TMDS Clock-
13	CEC
14	Reserved (N.C. on device)
15	SCL
16	SDA
17	DDC/CEC Ground
18	+5V Power
19	Hot Plug Detect

1.3 Chassis Overview



2. Safety Instructions, Warnings, and Notes

Index of this chapter:

2.1 Safety Instructions
2.2 Warnings
2.3 Notes

2.1 Safety Instructions

Safety regulations require the following **during** a repair:

- Connect the set to the Mains/AC Power via an isolation transformer (> 800 VA).
- Replace safety components, indicated by the symbol ⚠, only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that **after** a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the Mains/AC Power lead for external damage.
- Check the strain relief of the Mains/AC Power cord for proper function.
- Check the electrical DC resistance between the Mains/AC Power plug and the secondary side (only for sets that have a Mains/AC Power isolated power supply):
  1. Unplug the Mains/AC Power cord and connect a wire between the two pins of the Mains/AC Power plug.
  2. Set the Mains/AC Power switch to the "ON" position (keep the Mains/AC Power cord unplugged!).
  3. Measure the resistance value between the pins of the Mains/AC Power plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 Mohm and 12 Mohm.
  4. Switch "OFF" the set, and remove the wire between the two pins of the Mains/AC Power plug.
- Check the cabinet for defects, to prevent touching of any inner parts by the customer.

2.2 Warnings

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential. Available ESD protection equipment:
  – Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
  – Wristband tester 4822 344 13999.
- Be careful during measurements in the high voltage section.
- Never replace modules or other components while the unit is switched "ON".
- When you align the set, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

2.3 Notes

2.3.1 General

- Measure the voltages and waveforms with regard to the chassis (= tuner) ground (⏚), or hot ground (⏚), depending on the tested area of circuitry. The voltages and waveforms shown in the diagrams are indicative. Measure them in the Service Default Mode (see chapter 5) with a colour bar signal and stereo sound (L: 3 kHz, R: 1 kHz unless stated otherwise) and picture carrier at 475.25 MHz for PAL, or 61.25 MHz for NTSC (channel 3).
- Where necessary, measure the waveforms and voltages with (⏋⏌) and without (⏋⏌) aerial signal. Measure the voltages in the power supply section both in normal operation (⏻) and in stand-by (⏻). These values are indicated by means of the appropriate symbols.
- The semiconductors indicated in the circuit diagram and in the parts lists, are interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.
- Manufactured under license from Dolby Laboratories. “Dolby”, “Pro Logic” and the “double-D symbol”, are trademarks of Dolby Laboratories.

2.3.2 Schematic Notes

- All resistor values are in ohms, and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kohm).
- Resistor values with no multiplier may be indicated with either an "E" or an "R" (e.g. 220E or 220R indicates 220 ohm).
- All capacitor values are given in micro-farads (μ= x10^{-6}), nano-farads (n= x10^{-9}), or pico-farads (p= x10^{-12}).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An "asterisk" (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Spare Parts List. Therefore, always check this list when there is any doubt.

2.3.3 Lead-free Solder

Philips CE is producing lead-free sets (PBF) from 1.1.2005 onwards.

Identification: The bottom line of a type plate gives a 14-digit serial number. Digits 5 and 6 refer to the production year, digits 7 and 8 refer to production week (in example below it is 2006 week 17).

Figure 2-1 Serial number example

Regardless of the special lead-free logo (which is not always indicated), one must treat all sets from this date onwards according to the rules as described below.

Figure 2-2 Lead-free logo

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free soldering tin Philips SAC305 with order code 0622 149 00106. If lead-free solder paste is required, please contact the manufacturer of your soldering equipment. In general, use of solder paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free soldering tin. The solder tool must be able:
  – To reach a solder-tip temperature of at least 400°C.
  – To stabilise the adjusted temperature at the solder-tip.
  – To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature of around 360°C - 380°C is reached and stabilised at the solder joint. Heating time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C, otherwise wear-out of tips will increase drastically and flux-fluid will be destroyed. To avoid wear-out of tips, switch “off” unused equipment or reduce heat.
- Mix of lead-free soldering tin/parts with leaded soldering tin/parts is possible but PHILIPS recommends strongly **to avoid** mixed regimes. If this cannot be avoided, carefully clear the solder-joint from old tin and re-solder with new tin.
- Use only original spare-parts listed in the Service-Manuals. Not listed standard material (commodities) has to be purchased at external companies.
- For sets produced before 1.1.2005, containing leaded soldering tin and components, all needed spare parts will be available till the end of the service period. For the repair of such sets nothing changes.

In case of doubt whether the board is lead-free or not (or with mixed technologies), you can use the following method:
- Always use the highest temperature to solder, when using SAC305 (see also instructions below).
- De-solder thoroughly (clean solder joints to avoid mix of two alloys).

2.3.4 Alternative BOM identification

In September 2003, Philips CE introduced a change in the way the serial number (or production number, see Figure 2-1) is composed. From this date on, the **third digit** in the serial number (example: AG**2**B0335000001) indicates the number of the alternative BOM (Bill of Materials used for producing the specific model of TV set). It is possible that the same TV model on the market is produced with e.g. two different types of displays, coming from two different O.E.M.s.
By looking at the third digit of the serial number, the service technician can see if there is more than one type of B.O.M. used in the production of the TV set he is working with. He can then consult the At Your Service Web site, where he can type in the Commercial Type Version Number of the TV set (e.g. 28PW9515/12), after which a screen will appear that gives information about the number of alternative B.O.M.s used.
If the third digit of the serial number contains the number 1 (example: AG**1**B033500001), then there is only one B.O.M. version of the TV set on the market. If the third digit is a 2 (example: AG**2**B0335000001), then there are two different B.O.M.s. Information about this is important for ordering the correct spare parts!
For the third digit, the numbers 1...9 and the characters A...Z can be used, so in total: 9 plus 26 = 35 different B.O.M.s can be indicated by the third digit of the serial number.

2.3.5 Board Level Repair (BLR) or Component Level Repair (CLR)

If a board is defective, consult your repair procedure to decide if the board has to be exchanged or if it should be repaired on component level.
If your repair procedure says the board should be exchanged completely, do not solder on the defective board. Otherwise, it cannot be returned to the O.E.M. supplier for back charging!

2.3.6 Practical Service Precautions

- **It makes sense to avoid exposure to electrical shock.** While some sources are expected to have a possible dangerous impact, others of quite high potential are of limited current and are sometimes held in less regard.
- **Always respect voltages**. While some may not be dangerous in themselves, they can cause unexpected reactions that are best avoided. Before reaching into a powered TV set, it is best to test the high voltage insulation. It is easy to do, and is a good service precaution.

3. Directions for User

You can download this information from the following websites:
http://www.philips.com/support
http://www.p4c.philips.com

OSD Menu list

PC Mode			
1st Layer	2nd Layer	3rd Layer	4th Layer
Picture	Color temp	Normal	
		Warm	
		Cool	
	Brightness		
	Contrast		
	Auto adjust	Yes	
	Manual adjust	Phase	
		Clock	
		Horizontal	
		Vertical	
Sound	Smart sound	Personal	
		Speech	
		Music	
		Movie	
		Multimedia	
	Settings	Treble	
		Bass	
		Balance	
	Virtual surround	On	
		Off	
	AVL	On	
		Off	
Features	Picture format	Full screen	
		4:3	
Install	Language	English	
		Latem	
	Factory reset	No	
		Yes	

TV / AV/ S-VIDEO / HD MODE				
1st Layer	2nd Layer	3rd Layer	4th Layer	5th Layer
Picture	Smart picture	Personal		
		Rich		
		Nature		
		Soft		
		Multimedia		
	Contrast			
	Brightness			
	Color			
	Sharpness			
	Tint			
	Color temp	Normal		
		Warm		
		Cool		
	Picture format	Super zoom		
		4:3		
		Movie expand 14:9		
		Movie expand 16:9		
		16:9 subtitle		
		Widescreen		
Sound	Smart sound	Personal		
		Speech		
		Music		
		Movie		
		Multimedia		
	Settings	Treble		
		Bass		
		Balance		
	Virtual surround	On		
		Off		
	AVL	On		
		Off		
Features	Timer	Clock		
		Start time		
		Stop time		
		Sleep timer		
	NR	On		
		Off		
	Auto lock	Lock program		
		Change code	Enter New Code	Confirm Code
		Clear all	Start ?	
	Source list	TV		
		CVI		
		AV1		
		AV2 (side)		
		PC		
		DVI		

Install	Language	English		
		Latam		
	Auto store	Start ?	Auto store	
			Please wait	
			Prog. found	
			Frequency	
	Manual store	Manual store	MHz	
			Start ?	
		Prog. no		
		Finetune		
		Store	Store ?	
			Stored	
	Channel setting	Channel edit	Channel	
			Skipped	Active
				Skipped
		Channel swap	From	
			To	
			Exchange	Exchange ?
				Exchanged
		Name edit	Channel	
			Name	
		Channel sort	Sort ?	Sorting
				Sort complete
	Factory reset	No		
		Yes		

4. Mechanical Instructions

Index of this chapter:
4.1 Assy/Panel Removal
4.2 Set Re-assembly

4.1 Assy/Panel Removal

Notes: Please put your machine on soft material to avoid to scrape panel when you disassemble it.

Front view

Fig.1

Back view

Fig.2

Step 1. Remove the stand.
Remove the four screws as Fig.2.

Step 2. Remove the Back cover assy.
Remove the 10 screws on the bottom side as Fig.3.

Fig.3

Step 3. Remove the Vase plate and Bracket-base.
Remove the 14 screws on the bottom side as Fig.4.

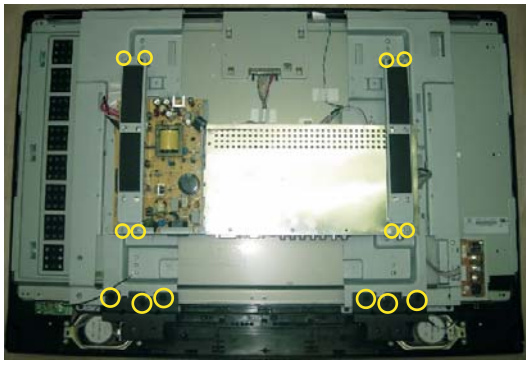


Fig.4

Step 4. Remove shielding.
Remove 10 screws as Fig.5 and remove 10 screws as Fig6.

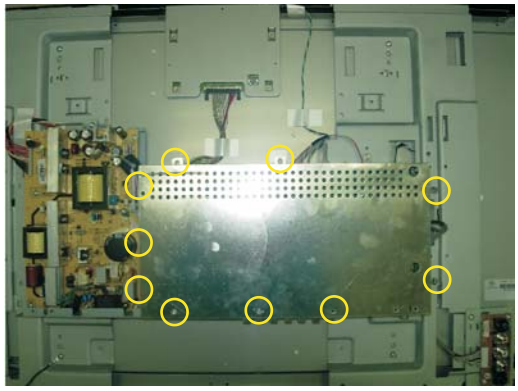


Fig.5

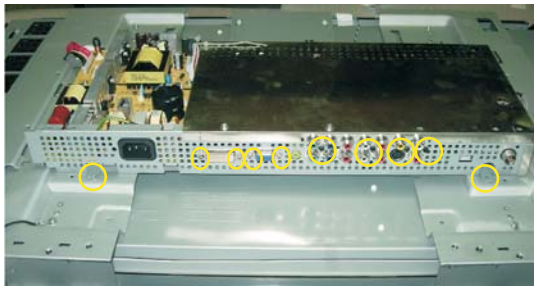


Fig.6

Step 5. Remove Scaler board, Power board, SideAV board and IR board.
Remove 17 screws as Fig.7.

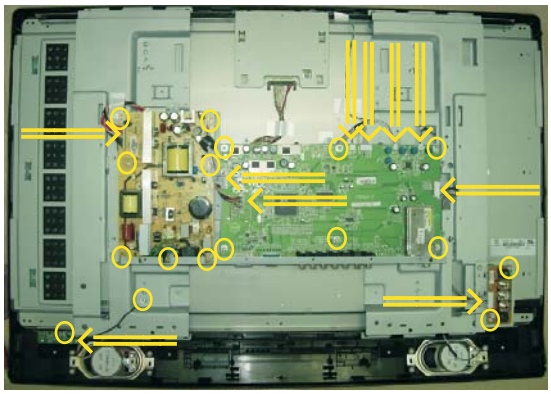


Fig.7

4. Mechanical Instructions

Step 6. Remove frame-PCB.
Remove 7 screws as Fig.8.

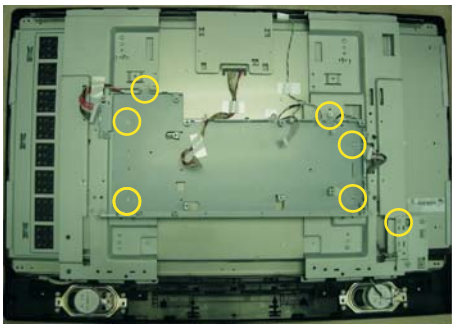


Fig.8

Step 7. Remove Metal frame.
Remove 16 screws as Fig.9.

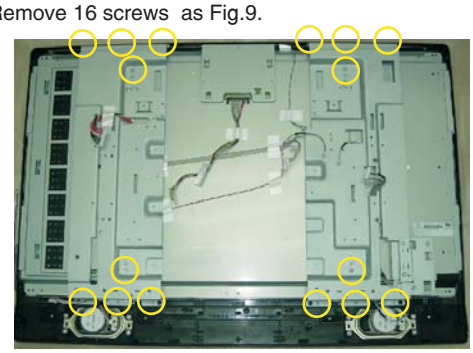


Fig.9

Step 8. Remove Metal frame.
Remove 4 screws as Fig.10.

Fig.10

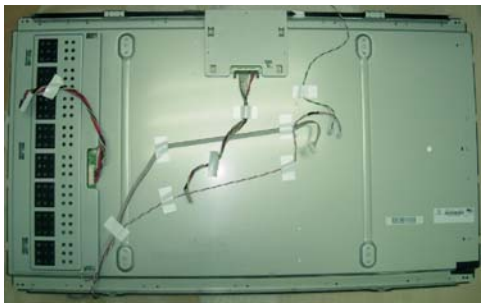


Fig.11

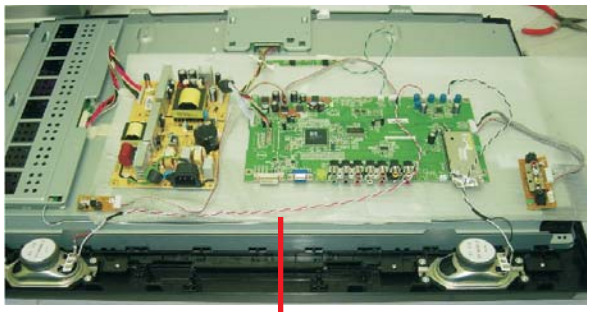


Fig.12

Service Position

4.2 Set Re-assembly

To re-assemble the whole set, execute all processes in reverse order.

Notes:
a. While re-assembling, make sure that all cables are placed and connected in their original position.
b. Pay special attention not to damage the EMC foams at the SSB shielding. Check that EMC foams are put correctly on their places.

****

In warranty, it is not allowed to disassembly the LCD panel, even the backlight unit defect.

Out of warranty, the replacment of backlight unit is a correct way when the defect is cused by backlight (CCFL,Lamp).

****

5. Service Modes, Error Codes and Fault Finding

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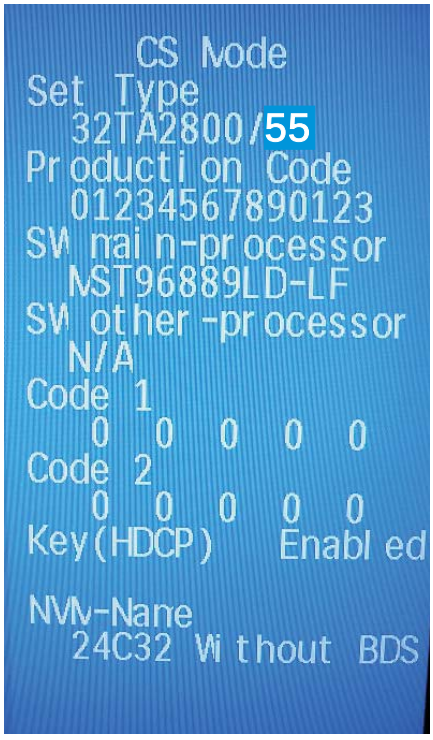
5.1 CSM
5.2 Factory Mode
5.3 Repair Flow Chart

5.1 CSM

It can display CSM windows message when press Menu+123654 on the button (RC) remote control in normal operation mode. Then choose The following information is displayed on screen:

CSM Item	Contents	Remark
1: Set Type	32TA2800/55	Project name
2: Production code	01234567890123	14 digit production-code(serial number)
3: SW-naming main-processor	MST96889LD-LF	SW-naming of Mstar/Trident
4: Code 1	0 0 0 0 0	Error codes in NVM/EEPROM (5 last logged errors)
5: Code 2	0 0 0 0 0	Error codes in NVM/EEPROM (5 first logged errors)
6: Key (HDCP)	Enabled	HDMI information whether HDCP-key is valid
7: NVM-naming	24C32-Without-BDS	Contents per display-type

The real picture as below:



About error code,Please refer to the table below.

Error code	Event
0x01	DDR error
0x02	IIC bus error
0x03	Tuner error
0x04	Demod error

5.2 Factory Mode

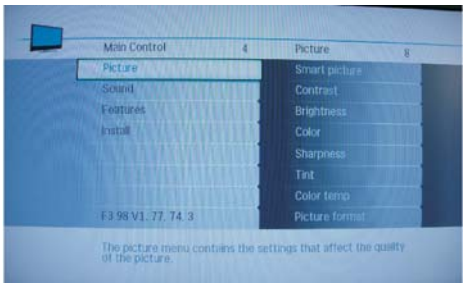
It can enter Factory Mode
1. Press" Menu" in normal operation mode to enter OSD.
2. Press "062596+Menu"on the button (RC) remote control in OSD.
3. The screen will appear "FAC" in the bottom, choose it and press the right key.

OSD behavior:
Before press number key change OSD item
Now remove previous function, press number key then press OK will change value

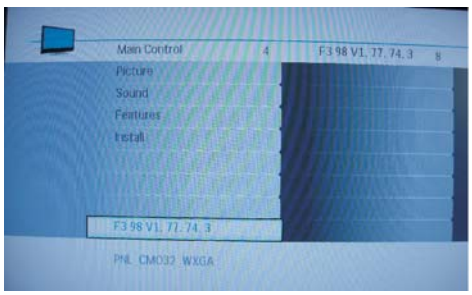
	Item	Description	Range	method of operation
	//Action Items			
0	Exit Factory			press OK.
1	AutoColor	PC: any pattern has black and white YPbPr:SMPTEbar(color bar), any timing.		press OK. when autocolor, the OSD disappear, when finished. OSD appear.
	//Switch Items			
2	Power On			On/Off
3	AGING MODE	turn<On> and no signal input		On/Off
	//ADC Gain & Offset	(values different by VGA and YPbPr) AutoColor changes those items		
4	ADC_GAIN_R		0~255	Press Left and Right to change value
5	ADC_GAIN_G		0~255	
6	ADC_GAIN_B		0~255	
7	ADC_OFFSET_R		0~127	
8	ADC_OFFSET_G		0~127	
9	ADC_OFFSET_B		0~127	
	//Color Temperature	(values different by AV,VGA,DTV,YPbPr)		
10	CLR_TEMP_R	Back-End Scaler R G B Gain	0~255	Press Left and Right to change value
11	CLR_TEMP_G		0~255	
12	CLR_TEMP_B		0~255	
	//Tuner & Panel Id			
13	EEPROM ID	value different by type		

The below pictures is for your reference:

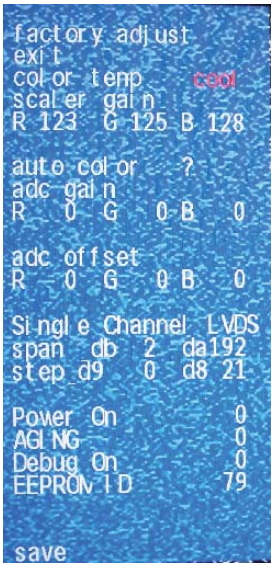
Step1: press MENU+062596 in user mode.



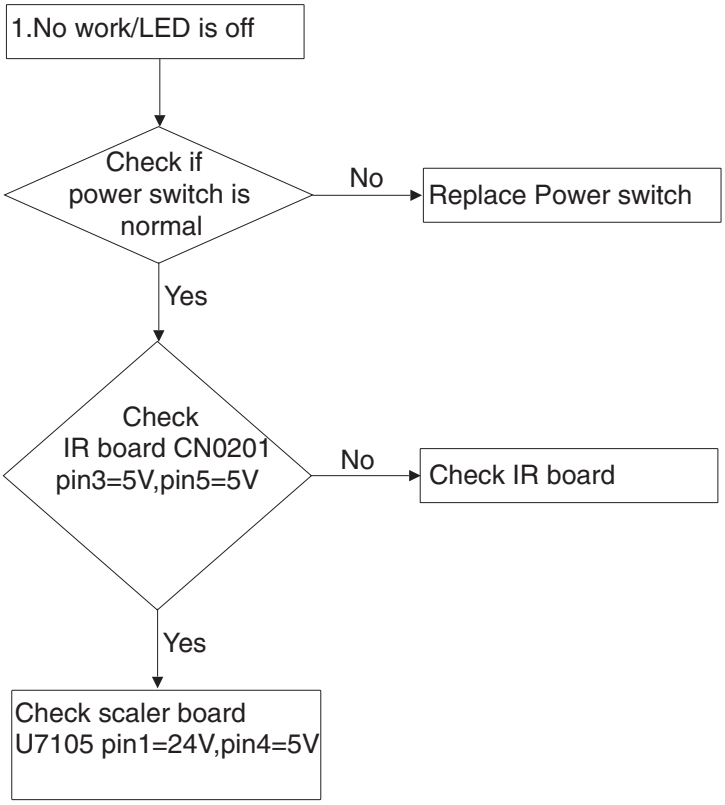
Step2: choose F3 98 V1.77.74.3,press the right key, then enter the factory mode.

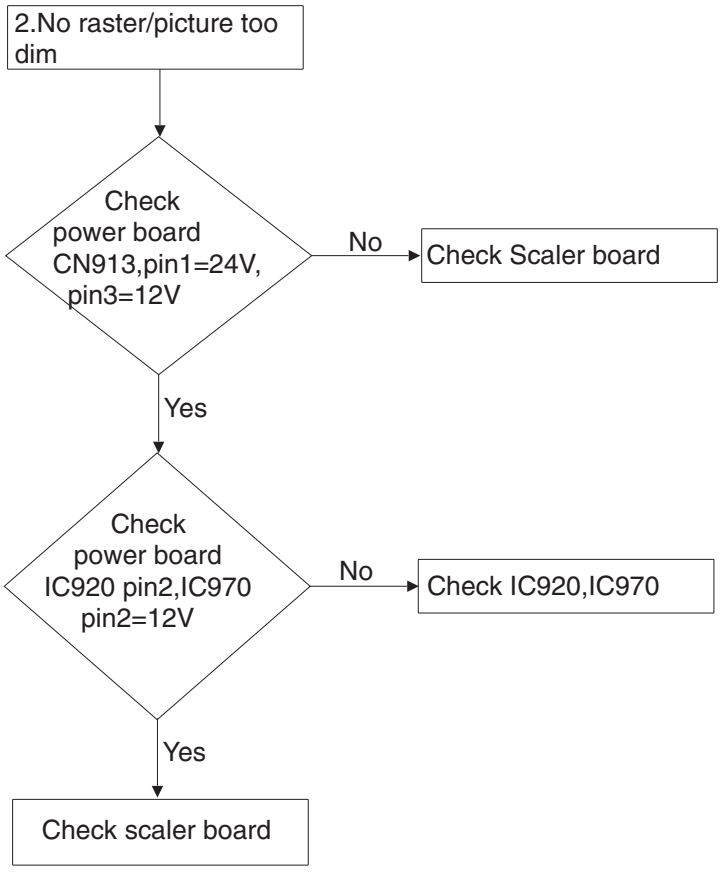


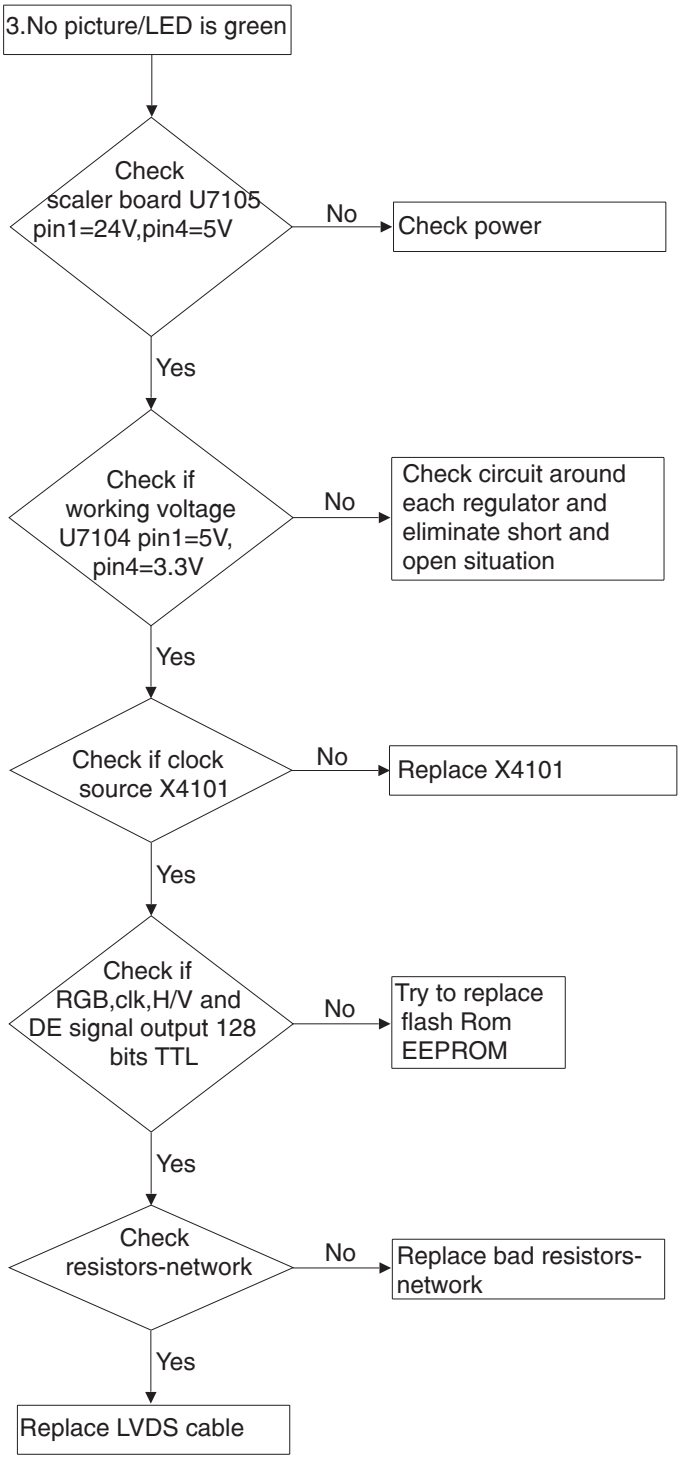
The factory content:

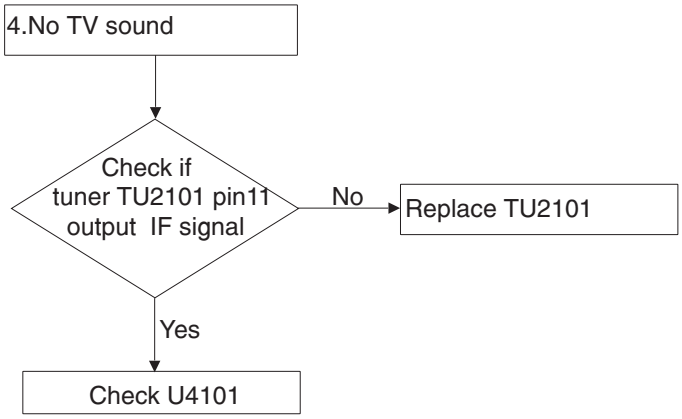


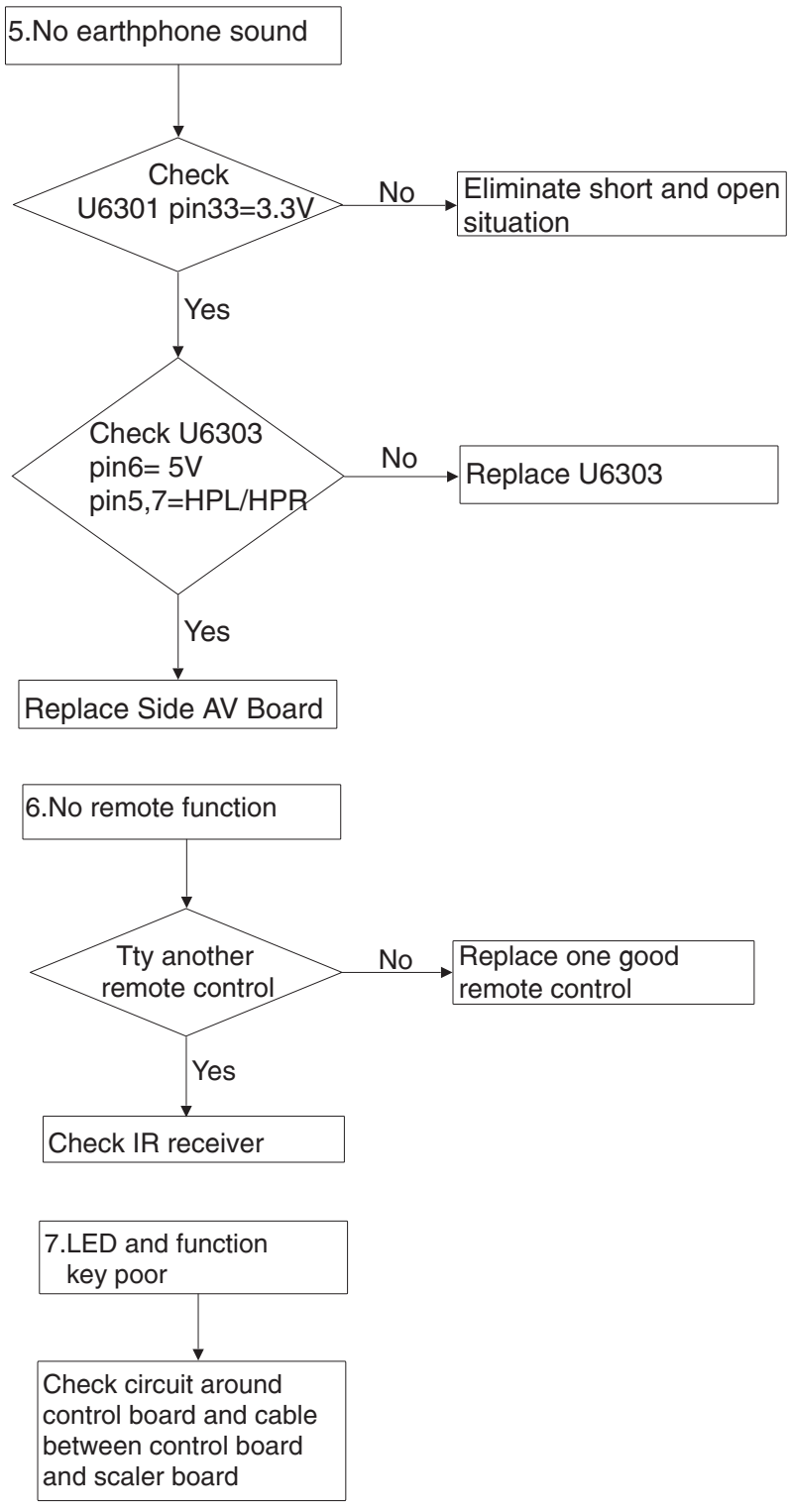
5.3 Repair Flow Chart






3.No picture/LED is green
Check scaler board U7105 pin1=24V,pin4=5V
No
Check power
Yes
Check if working voltage U7104 pin1=5V, pin4=3.3V
No
Check circuit around each regulator and eliminate short and open situation
Yes
Check if clock source X4101
No
Replace X4101
Yes
Check if RGB,clk,H/V and DE signal output 128 bits TTL
No
Try to replace flash Rom EEPROM
Yes
Check resistors-network
No
Replace bad resistors-network
Yes
Replace LVDS cable


4.No TV sound
Check if tuner TU2101 pin11 output IF signal
No
Replace TU2101
Yes
Check U4101

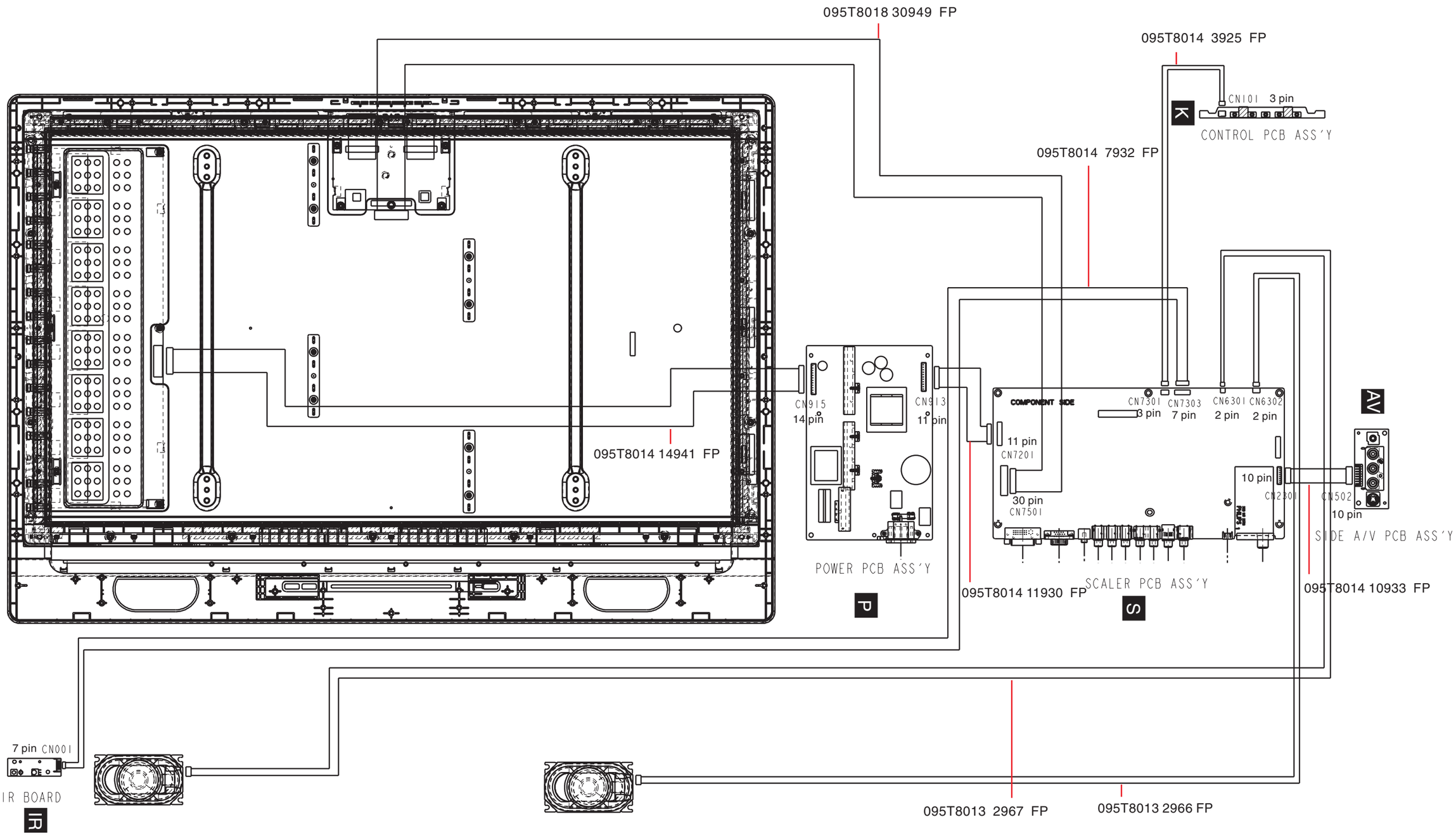

5.No earthphone sound
Check
U6301 pin33=3.3V
No
Eliminate short and open situation
Yes
Check U6303
pin6= 5V
pin5,7=HPL/HPR
No
Replace U6303
Yes
Replace Side AV Board
6.No remote function
Tty another
remote control
No
Replace one good remote control
Yes
Check IR receiver
7.LED and function key poor
Check circuit around control board and cable between control board and scaler board

6. Block Diagram

Index of this chapter:
6.1 Wiring Diagram
6.2 Block Diagram

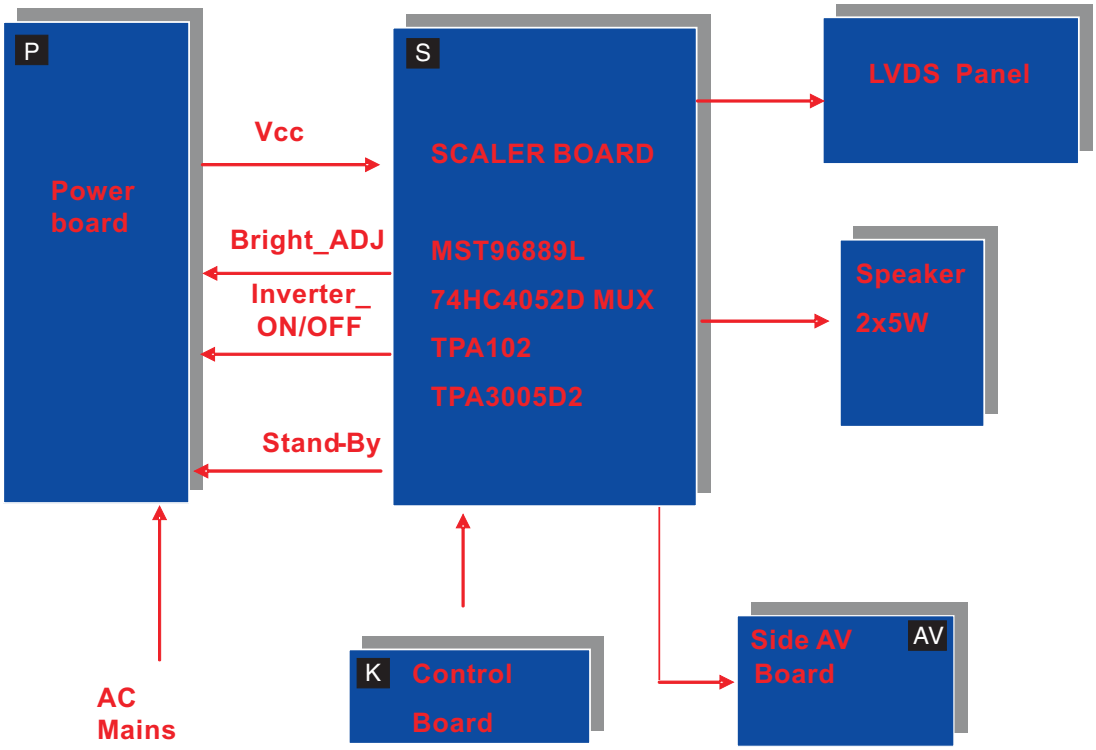
6.1 Wiring Diagram

32TA2800 Wiring Diagram



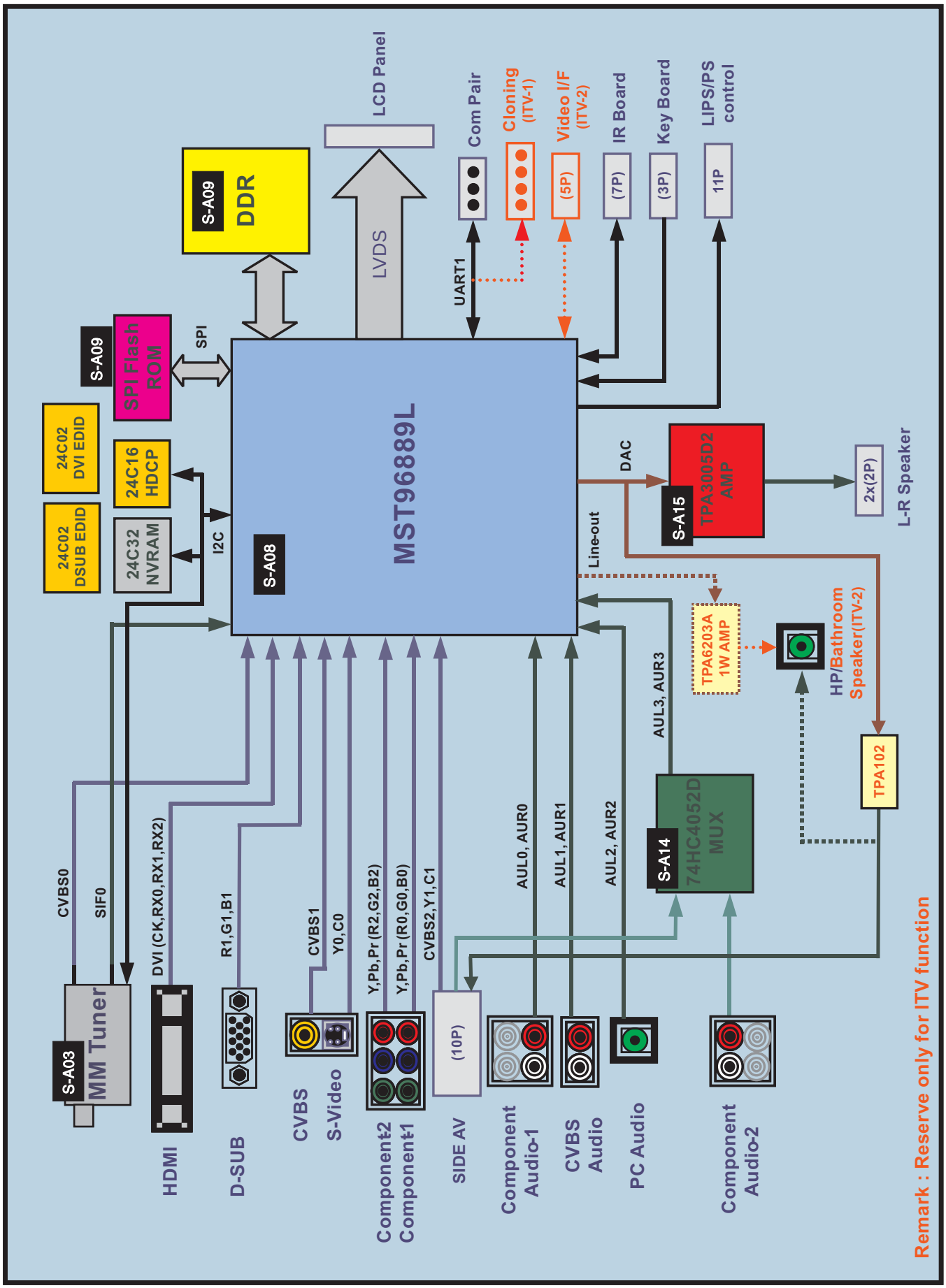
6.2 Block Diagram

32" Wide architecture Block Diagram

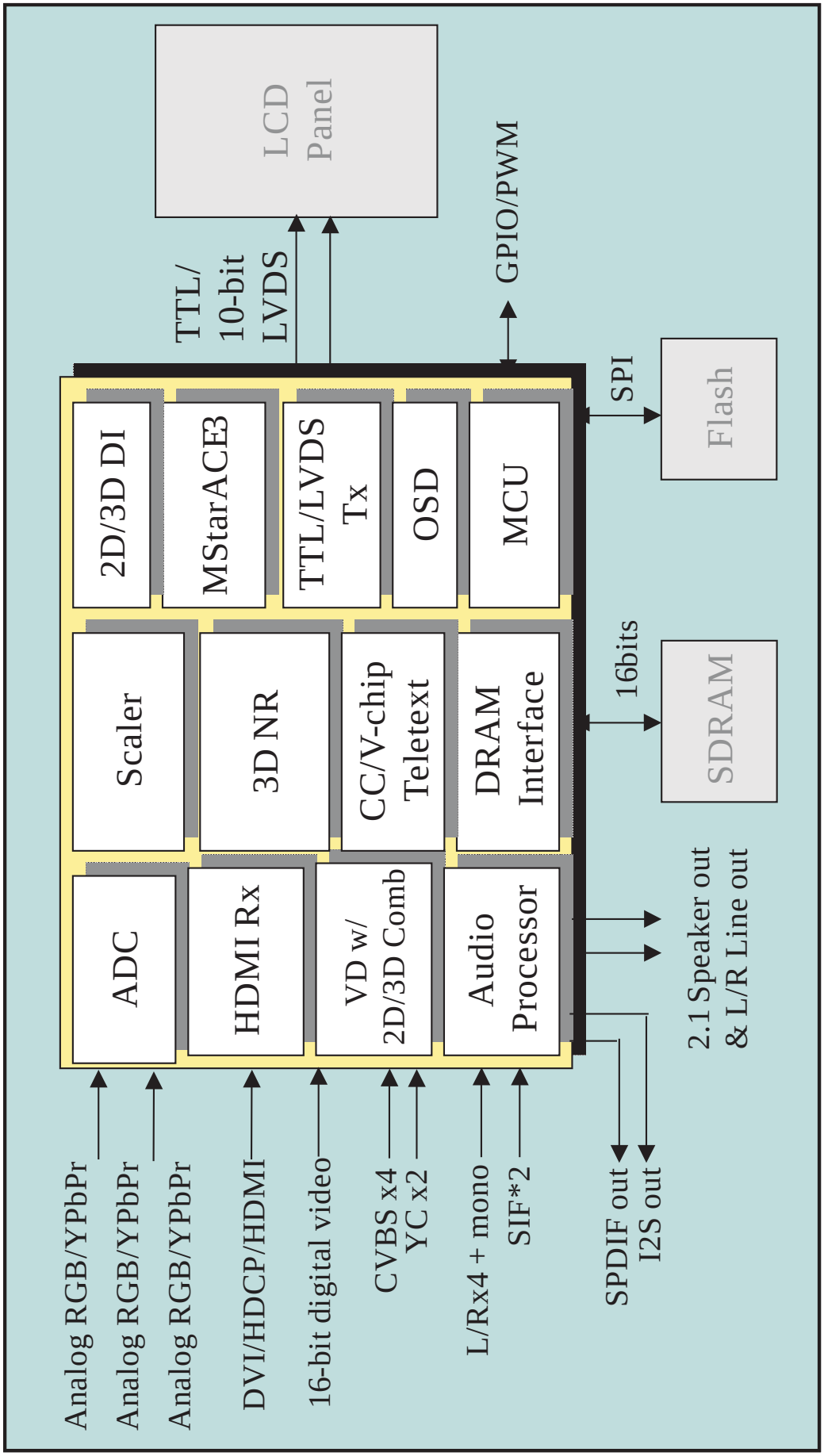


6. Block Diagram

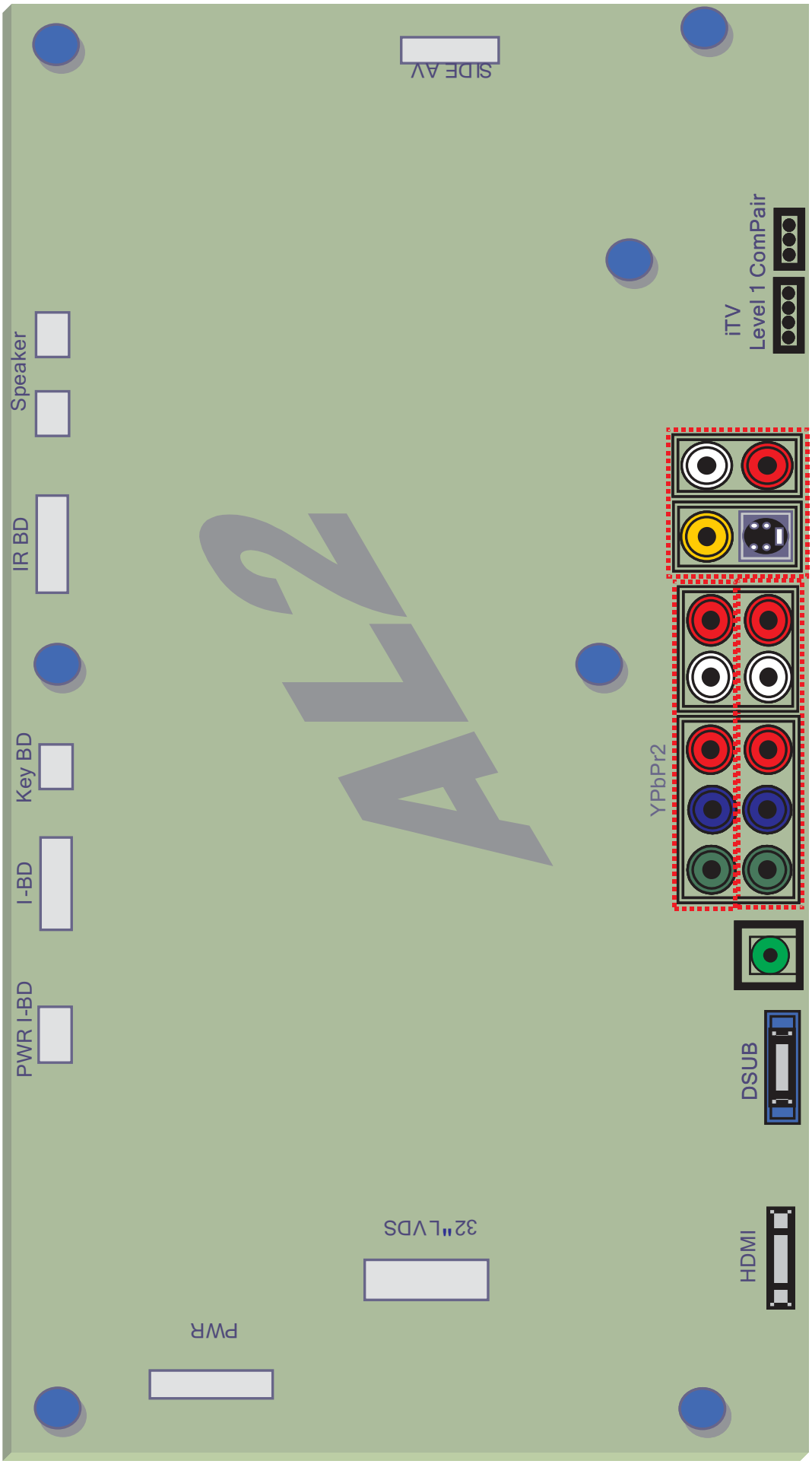
Function Block of main Board



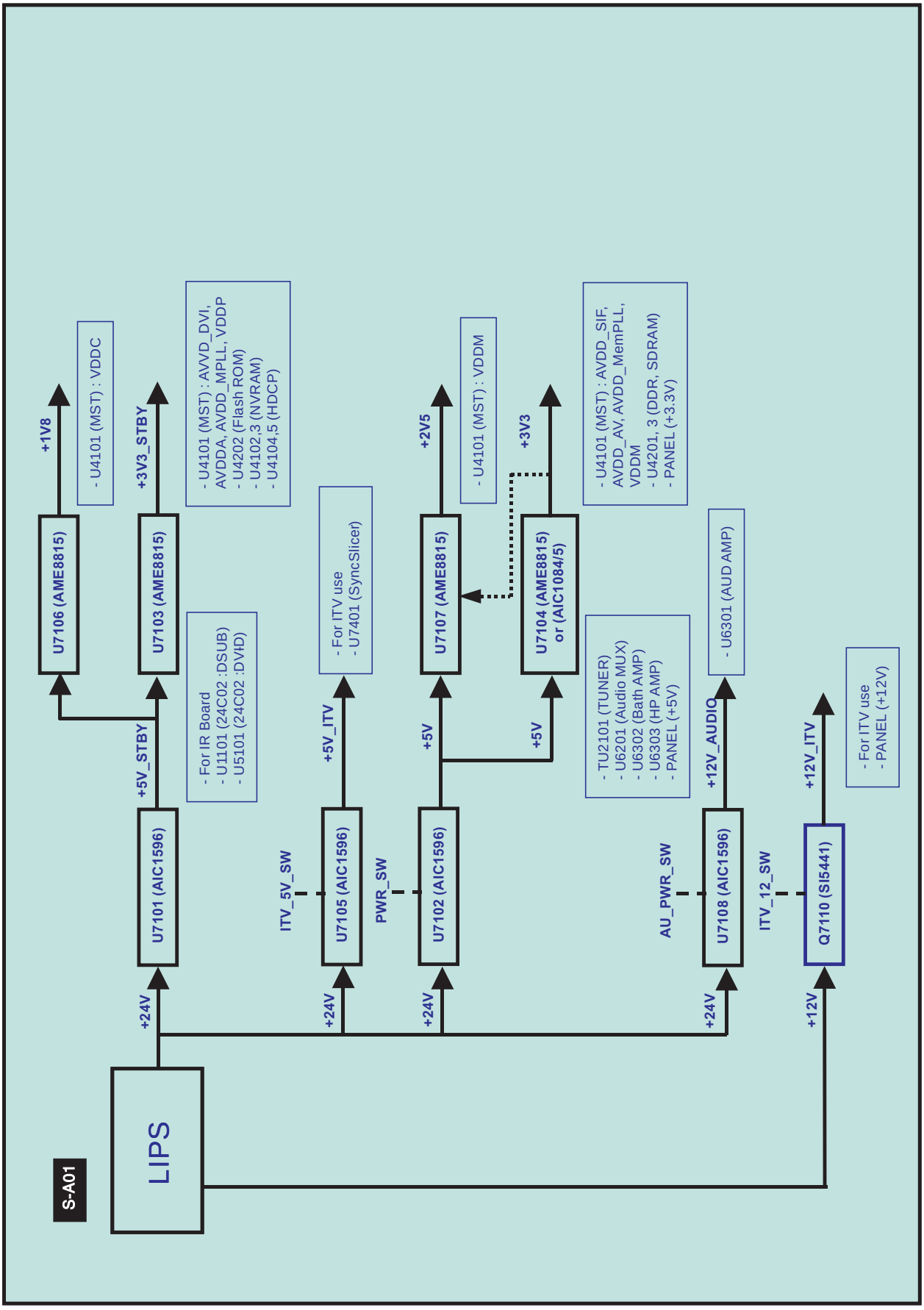
Function Diagram MST96885L/9L



32TA2800 BLOCK DIAGRAM

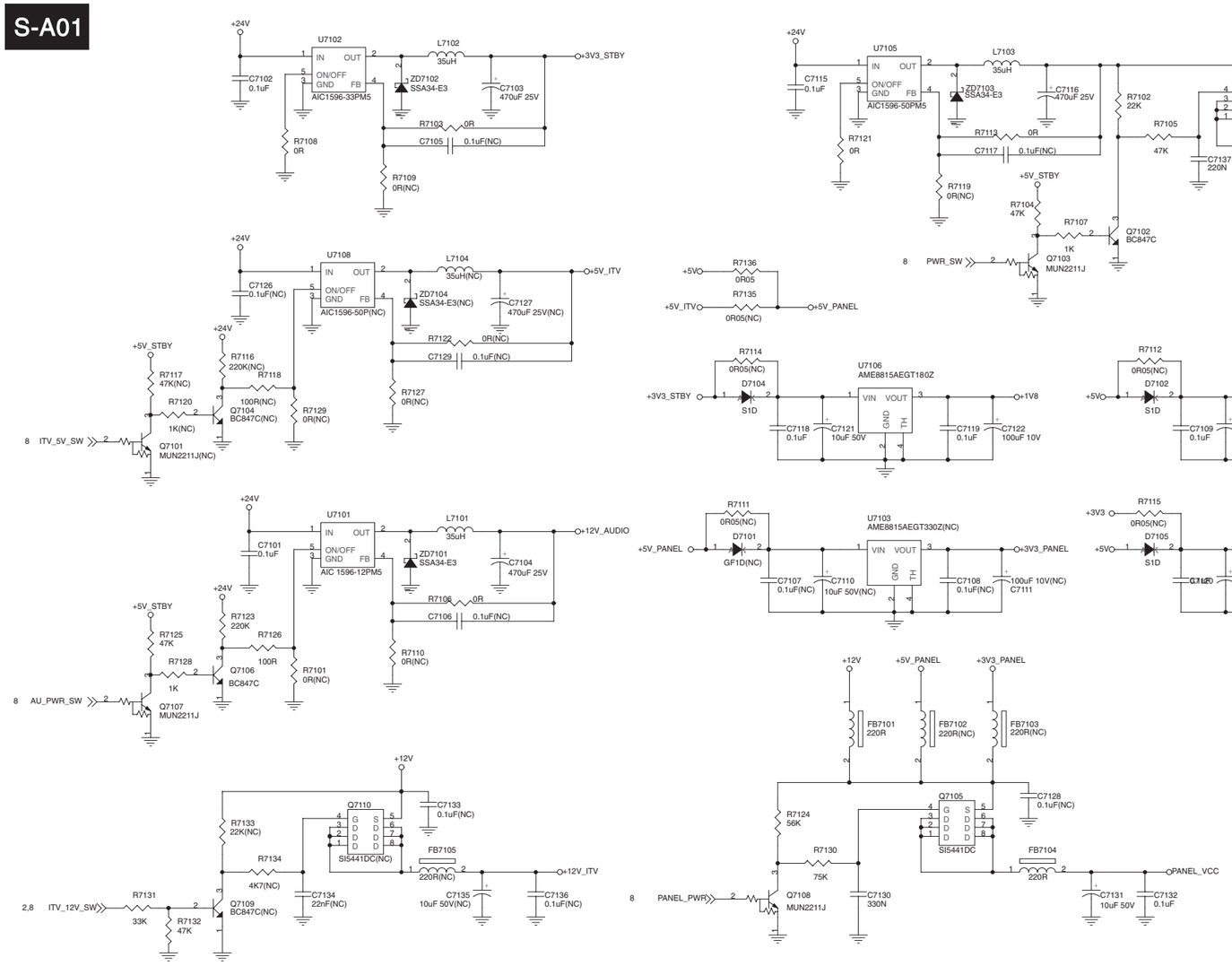


Power management



Scaler Board Schematic Diagram - Power

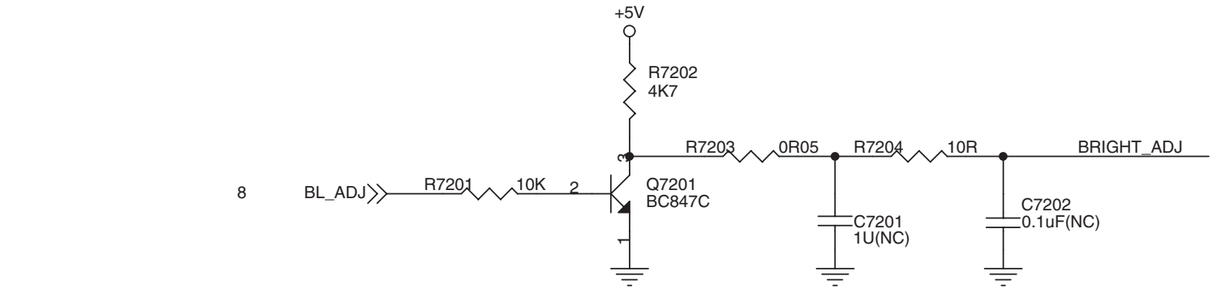
S-A01

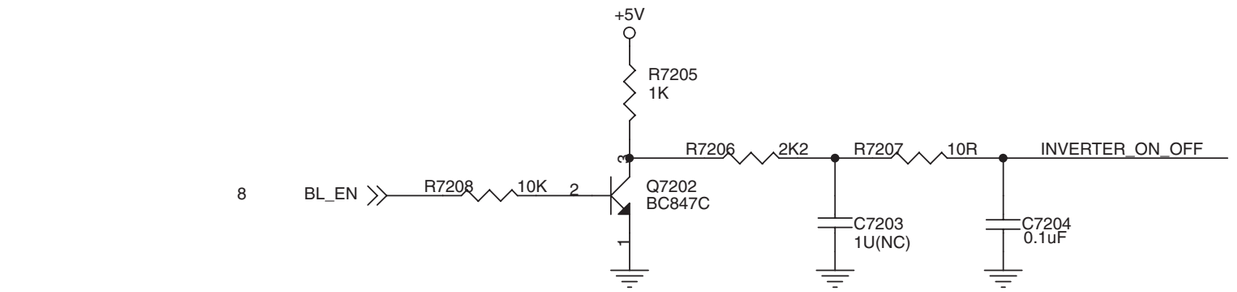


C7101 D2 C7102 A2
C7103 A3 C7104 D4
C7105 A3 C7106 D3
C7107 D5 C7108 D6
C7109 C8 C7110 D6
C7111 D7 C7112 C8
C7113 C9 C7114 C9
C7115 A5 C7116 A7
C7117 A7 C7118 C5
C7119 C6 C7120 D8
C7121 C6 C7122 C7
C7123 D8 C7124 D9
C7125 D9 C7126 B2
C7127 B4 C7128 E7
C7129 C3 C7130 F6
C7131 F7 C7132 F7
C7133 E3 C7134 F2
C7135 F3 C7136 F4
C7137 B8 C7138 A9
D7101 D5 D7102 C7
D7104 C5 D7105 D7
FB7101 E6 FB7102 E6
FB7103 E7 FB7104 F7
FB7105 F3 L7101 D3
L7102 A3 L7103 A7
L7104 B3 Q7101 C1
Q7102 B7 Q7103 B7
Q7104 C2 Q7105 E6
Q7106 E2 Q7107 E1
Q7108 F5 Q7109 F2
Q7110 E3 Q7111 A8
R7101 D2 R7102 A7
R7103 A3 R7104 B7
R7105 A8 R7106 D3
R7107 B7 R7108 A2
R7109 B3 R7110 D3
R7111 D5 R7112 C7
R7113 A7 R7114 C5
R7115 D7 R7116 C2
R7117 C1 R7118 C2
R7119 B6 R7120 C2
R7121 A6 R7122 C3
R7123 D2 R7124 E5
R7125 D1 R7126 D2
R7127 C3 R7128 E2
R7129 C2 R7130 F5
R7131 F1 R7132 F2
R7133 E2 R7134 F2
R7135 B5 R7136 B5
U7101 D3 U7102 A2
U7103 D6 U7104 C8
U7105 A6 U7106 C6
U7107 D8 U7108 B3
ZD7101 D3 ZD7102 A3
ZD7103 A6 ZD7104 B3

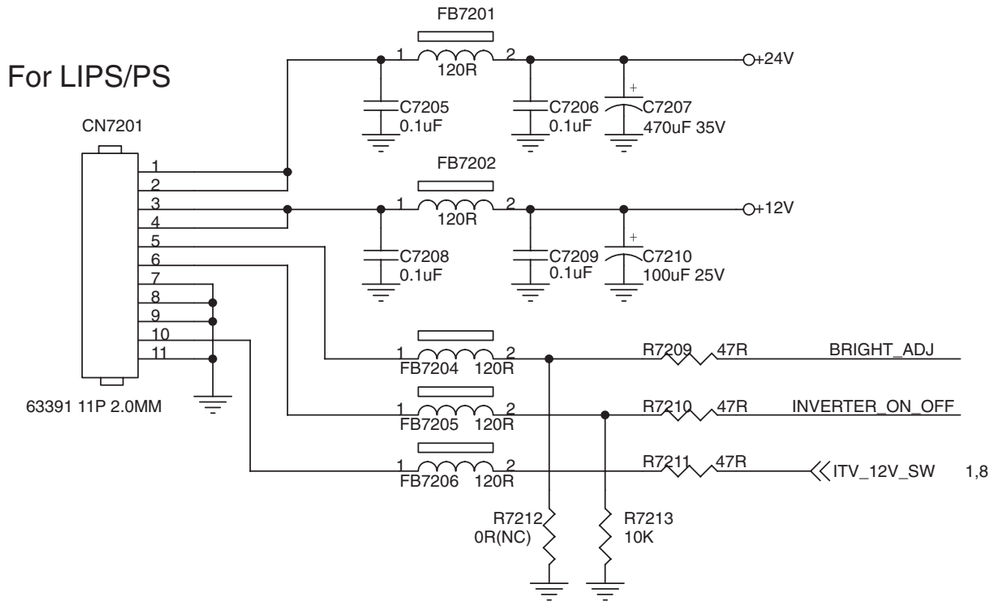
Scaler Board Schematic Diagram - Lips & Inverter I/F

S-A02

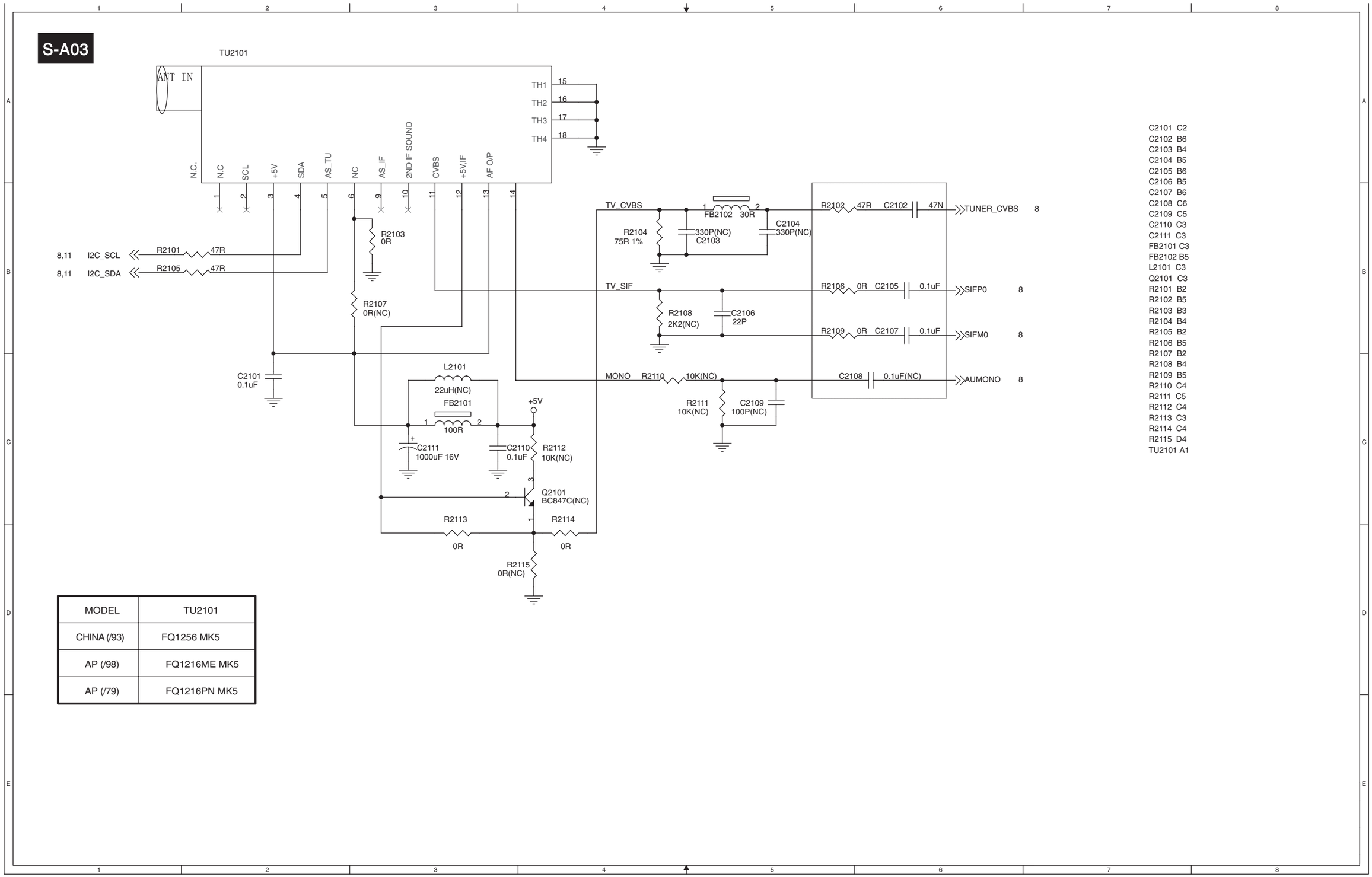




CN7201 C2
C7201 A4
C7202 A4
C7203 B4
C7204 B4
C7205 C2
C7206 C3
C7207 C3
C7208 C2
C7209 C3
C7210 C3
FB7201 C3
FB7202 C3
FB7204 D3
FB7205 D3
FB7206 D3
Q7201 A3
Q7202 B3
R7201 A3
R7202 A3
R7203 A3
R7204 A4
R7205 B3
R7206 B3
R7207 B4
R7208 B3
R7209 D3
R7210 D3
R7211 D3
R7212 D3
R7213 D3



Scaler Board Schematic Diagram - Tuner



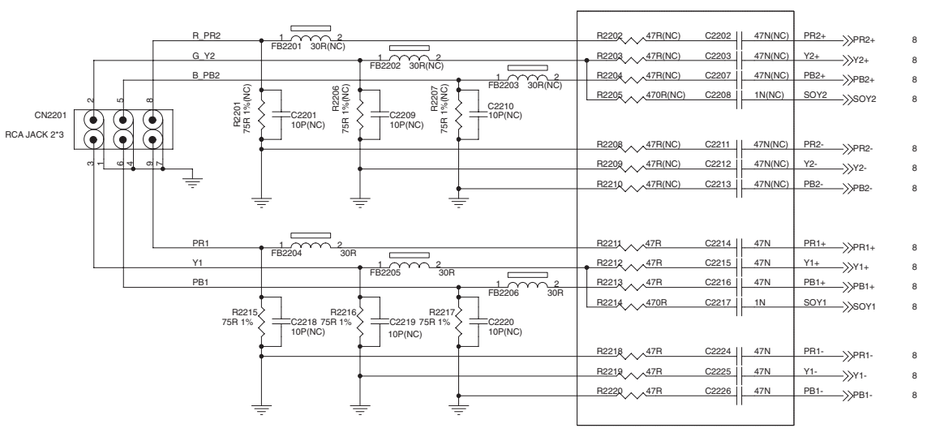
C2101 C2
C2102 B6
C2103 B4
C2104 B5
C2105 B6
C2106 B5
C2107 B6
C2108 C6
C2109 C5
C2110 C3
C2111 C3
FB2101 C3
FB2102 B5
L2101 C3
Q2101 C3
R2101 B2
R2102 B5
R2103 B3
R2104 B4
R2105 B2
R2106 B5
R2107 B2
R2108 B4
R2109 B5
R2110 C4
R2111 C5
R2112 C4
R2113 C3
R2114 C4
R2115 D4
TU2101 A1

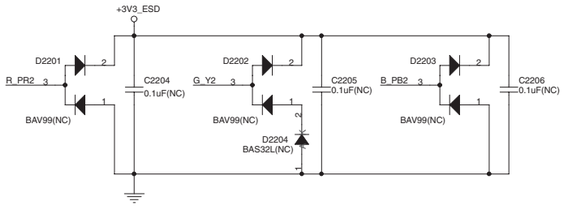
MODEL	TU2101
CHINA (/93)	FQ1256 MK5
AP (/98)	FQ1216ME MK5
AP (/79)	FQ1216PN MK5

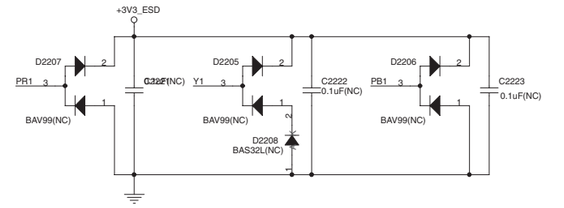
Scaler Board Schematic Diagram - Video Input 1

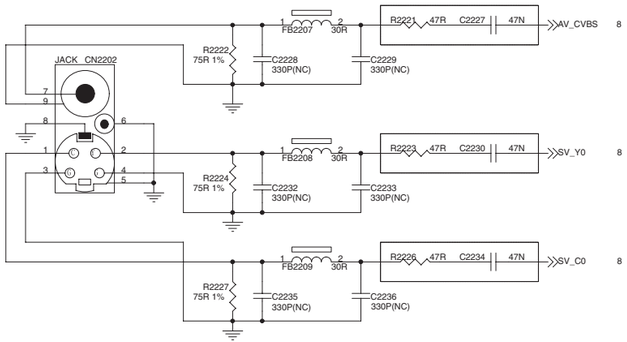
S-A04

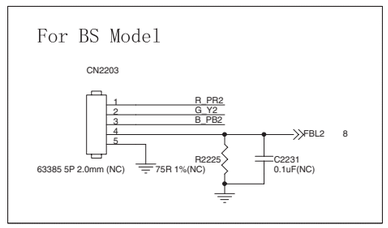
CN2201 B1 CN2202 D1
CN2203 E7 C2201 B2
C2202 A5 C2203 A5
C2204 A7 C2205 A8
C2206 A9 C2207 A5
C2208 A5 C2209 B3
C2210 B3 C2211 B5
C2212 B5 C2213 B5
C2214 B5 C2215 B5
C2216 B5 C2217 C5
C2218 C2 C2219 C3
C2220 C3 C2221 C7
C2222 C8 C2223 C9
C2224 C5 C2225 C5
C2226 C5 C2227 D4
C2228 D3 C2229 D3
C2230 E4 C2231 E8
C2232 E3 C2233 E3
C2234 E4 C2235 F3
C2236 F3 D2201 A6
D2202 A7 D2203 A9
D2204 B8 D2205 C7
D2206 C8 D2207 C6
D2208 C8 FB2201 A2
FB2202 A3 FB2203 A3
FB2204 B2 FB2205 B3
FB2206 B3 FB2207 D3
FB2208 E3 FB2209 E3
R2201 B2 R2202 A4
R2203 A4 R2204 A4
R2205 A4 R2206 B3
R2207 B3 R2208 B4
R2209 B4 R2210 B4
R2211 B4 R2212 B4
R2213 B4 R2214 C4
R2215 C2 R2216 C3
R2217 C3 R2218 C4
R2219 C4 R2220 C4
R2221 D3 R2222 D2
R2223 E3 R2224 E2
R2225 E7 R2226 E3



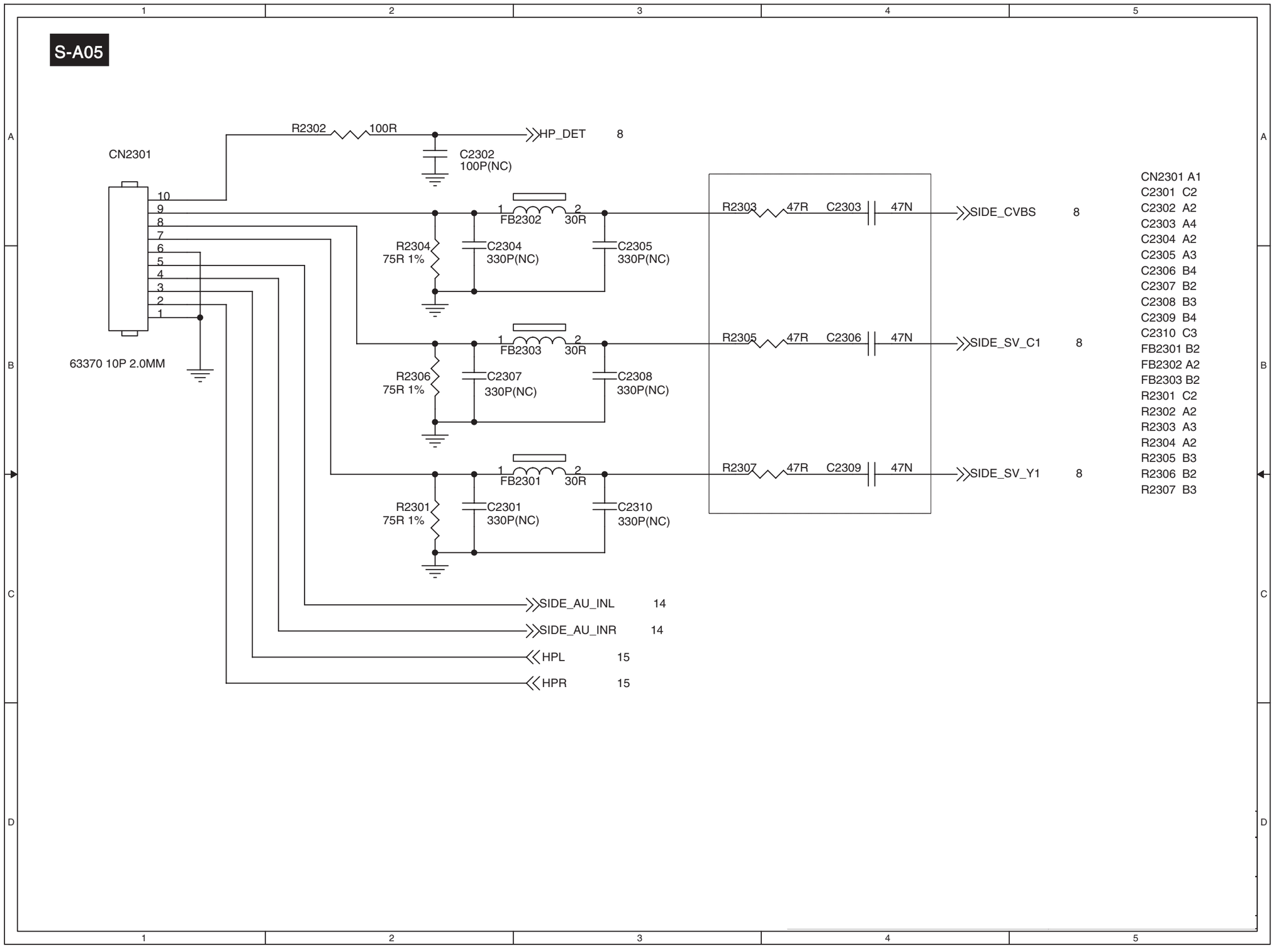




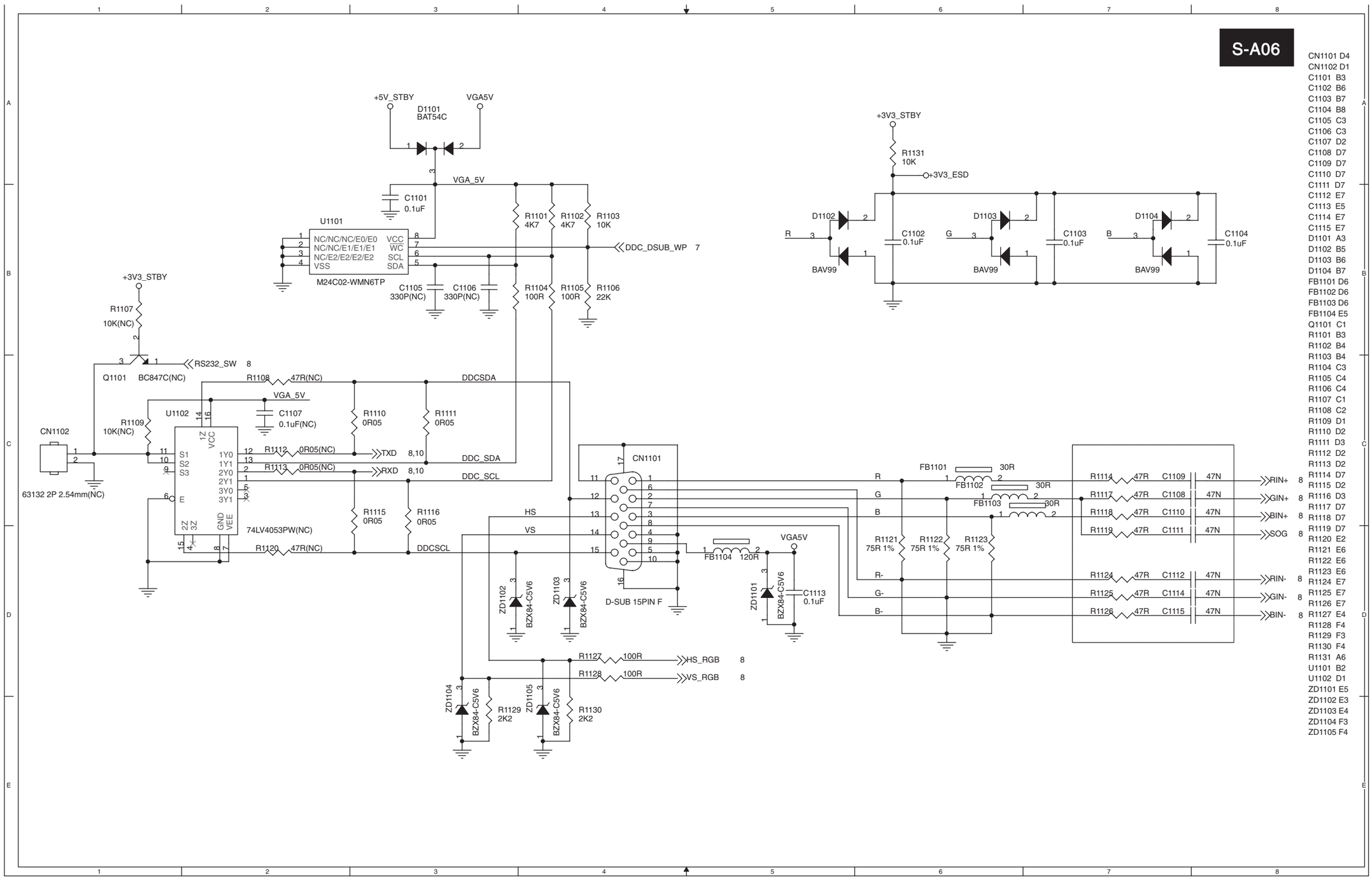




Scaler Board Schematic Diagram - Side AV



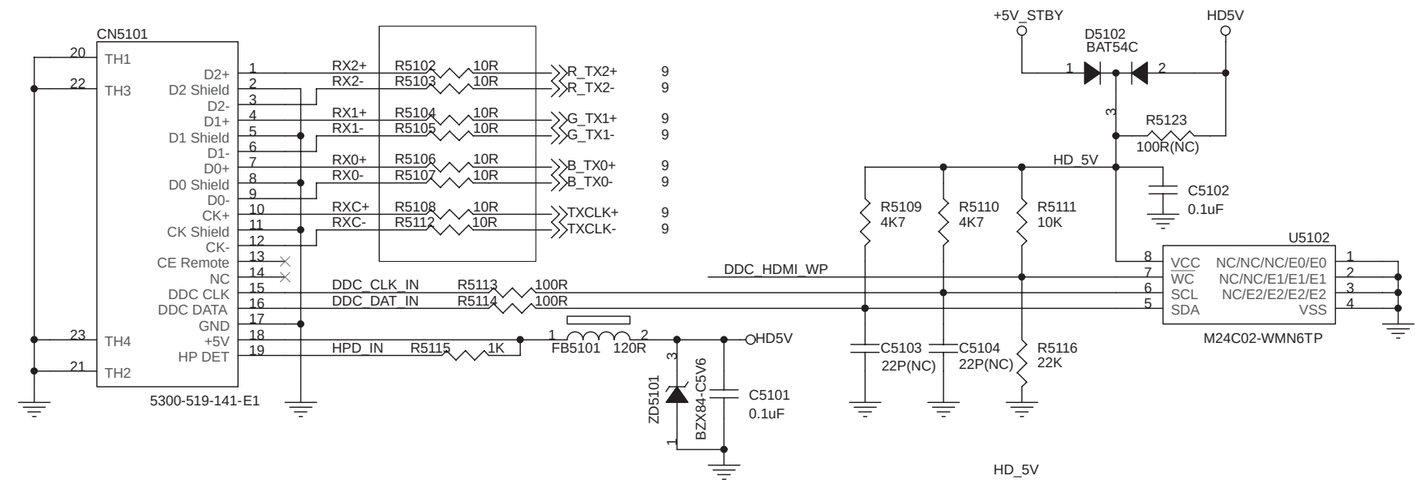
Scaler Board Schematic Diagram - DSUB Input



CN1101 D4
CN1102 D1
C1101 B3
C1102 B6
C1103 B7
C1104 B8
C1105 C3
C1106 C3
C1107 D2
C1108 D7
C1109 D7
C1110 D7
C1111 D7
C1112 E7
C1113 E5
C1114 E7
C1115 E7
D1101 A3
D1102 B5
D1103 B6
D1104 B7
FB1101 D6
FB1102 D6
FB1103 D6
FB1104 E5
Q1101 C1
R1101 B3
R1102 B4
R1103 B4
R1104 C3
R1105 C4
R1106 C4
R1107 C1
R1108 C2
R1109 D1
R1110 D2
R1111 D3
R1112 D2
R1113 D2
R1114 D7
R1115 D2
R1116 D3
R1117 D7
R1118 D7
R1119 D7
R1120 E2
R1121 E6
R1122 E6
R1123 E6
R1124 E7
R1125 E7
R1126 E7
R1127 E4
R1128 F4
R1129 F3
R1130 F4
R1131 A6
U1101 B2
U1102 D1
ZD1101 E5
ZD1102 E3
ZD1103 E4
ZD1104 F3
ZD1105 F4

Scaler Board Schematic Diagram - HDMI Input

S-A07



CN5101 A1
C5101 B3
C5102 A5
C5103 B4
C5104 B4
C5105 D1
D5101 D4
D5102 A5
FB5101 B3
Q5101 C4
Q5102 D4
R5101 C4
R5102 A3
R5103 A3
R5104 A3
R5105 A3
R5106 A3
R5107 A3
R5108 A3
R5109 A4
R5110 A4
R5111 A4
R5112 B3
R5113 B3
R5114 B3
R5115 B3
R5116 B4
R5117 C4
R5118 C4
R5119 C4
R5120 C5
R5121 C5
R5122 D4
R5123 A5
U5101A C1
U5101B C5
U5102 B5
ZD5101 B3

Scaler Board Schematic Diagram - SCALER

S-A08

U4101

MST96889LD-LF

+3.3AVDD for AVDD_DVI

+3.3AVDD for AVDDA

+3.3V for AVDD_MPLL

+3.3V for AVDD_SIF

+3.3V for AVDD_AU

+3.3V for AVDD_MemPLL

POWER ON RESET

ISP & Debug PORT

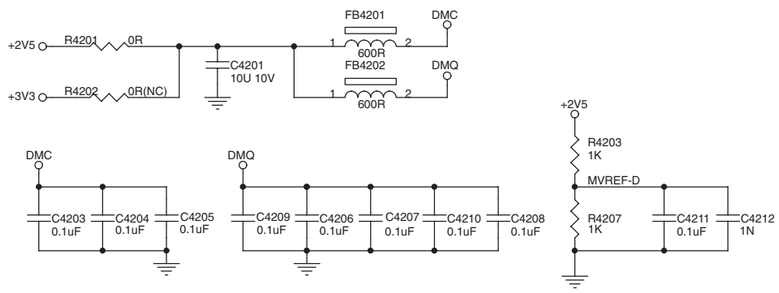
NVRAM

Only spare for HDCP KEY

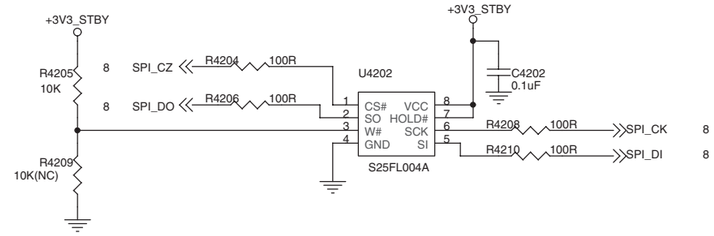
CN4101 C8 C4101 A1
C4102 A3 C4103 A6
C4104 A1 C4105 A2
C4106 A3 C4107 A3
C4108 A6 C4109 A6
C4110 A6 C4111 A7
C4112 B1 C4113 B1
C4114 B1 C4115 B1
C4116 B3 C4117 B3
C4118 B2 C4119 C1
C4120 C1 C4121 C1
C4122 C2 C4123 C2
C4124 C2 C4125 C2
C4126 C2 C4127 C2
C4128 C1 C4129 C1
C4130 C1 C4131 C2
C4132 C2 C4133 C2
C4134 D3 C4135 D3
C4136 D3 C4137 D8
C4138 D1 C4139 D1
C4140 E1 C4141 E1
C4142 E7 C4143 E1
C4144 E1 C4145 F1
C4146 F1 C4147 F1
C4148 F2 C4149 F2
C4150 F2 C4151 G1
C4152 G1 C4153 A8
D4101 A3 FB4101 A1
FB4102 B1 FB4103 B1
FB4104 C1 FB4105 C1
FB4106 D1 FB4107 E1
FB4108 E1 FB4109 F1
FB4110 F1 R4101 A3
R4102 A6 R4103 A3
R4104 A4 R4105 B6
R4106 B7 R4107 B6
R4108 B3 R4109 B6
R4110 B6 R4112 B6
R4113 B6 R4114 B6
R4115 B6 R4117 B8
R4118 B8 R4119 C8
R4120 C8 R4121 D2
R4122 D2 R4123 D2
R4124 D6 R4125 D8
R4126 D8 R4127 D3
R4128 D3 R4129 D3
R4130 D3 R4131 D3
R4132 D3 R4133 E3
R4134 E3 R4135 E3
R4136 E3 R4137 E3
R4138 E3 R4139 E7
R4140 F8 R4141 F8
R4142 F8 R4143 F6
R4144 F6 R4145 F4
R4146 F4 R4147 F6
R4148 F3 R4149 F6
R4150 F3 R4151 F6
R4152 F6 R4153 F3
R4154 F6 R4155 F3
R4156 F6 R4157 F6
R4158 F3 R4159 F4
R4160 F4 R4161 F5
R4162 F6 R4163 F3
R4164 F4 R4165 F3
R4166 F6 R4167 F3
R4168 F6 R4169 F1
R4170 F3 R4171 F6
R4172 F3 R4173 F6
R4174 F6 R4175 F3
R4176 F4 R4177 G1
R4178 F3 R4179 F4
R4180 F4 R4181 F5
R4182 G3 R4183 G3
R4184 A7 R4185 B7
R4186 A7 TP4101 D3
TP4102 D3 TP4103 C6
TP4104 C6 TP4105 B6
TP4106 B6 TP4107 B6
TP4108 B6 TP4109 A5
U4101 B3 U4102 D7
U4103 E7 U4104 F7
U4105 F7 U4106 A8

Scaler Board Schematic Diagram - FLASH ROM & MEMERY

S-A09

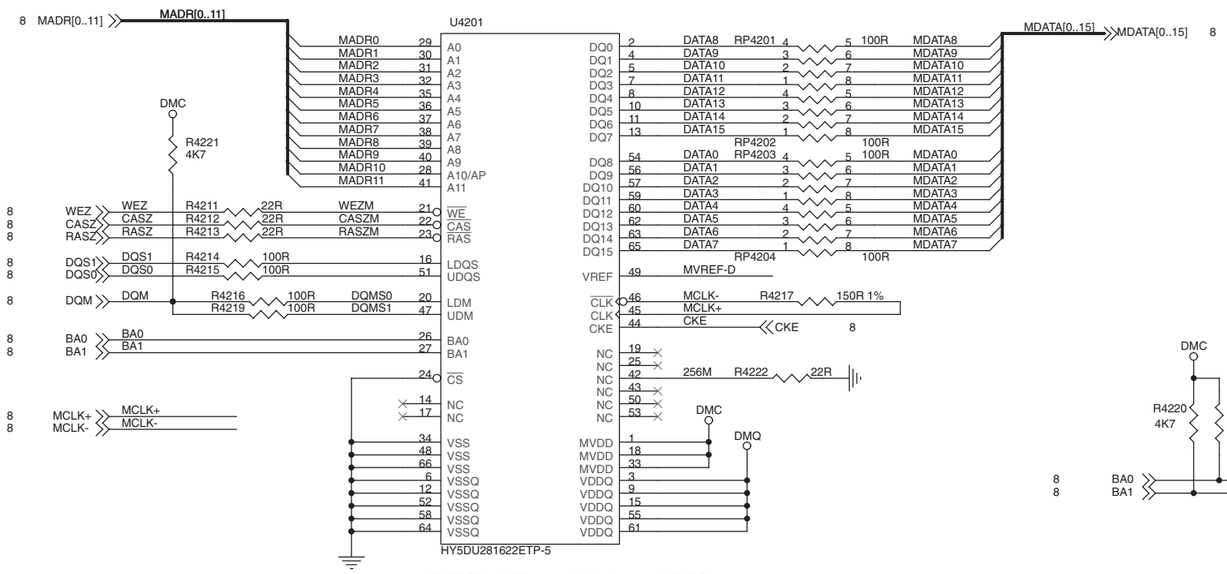


SPI Flash ROM



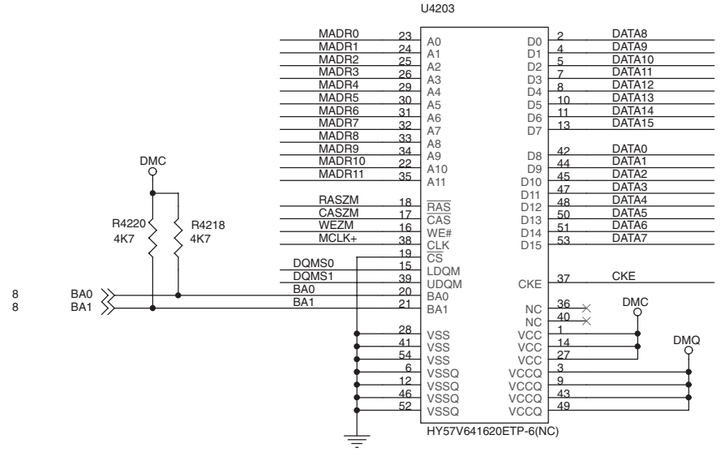
MODEL	U4202
CHINA (/93)	S25FL004A (4M)
AP (/98)	S25FL008A (8M)
AP (/79)	S25FL008A (8M)

C4201 A2
C4202 B7
C4203 B1
C4204 B2
C4205 B2
C4206 B3
C4207 B3
C4208 B3
C4209 B2
C4210 B3
C4211 B4
C4212 B4
FB4201 A3
FB4202 A3
RP4201 C4
RP4202 C4
RP4203 C4
RP4204 D4
R4201 A2
R4202 A2
R4203 B4
R4204 B6
R4205 B6
R4206 B6
R4207 B4
R4208 B8
R4209 B6
R4210 B8
R4211 D2
R4212 D2
R4213 D2
R4214 D2
R4215 D2
R4216 D2
R4217 D4
R4218 E6
R4219 D2
R4220 E6
R4221 C1
R4222 D4
U4201 C3
U4202 B7
U4203 D7



DDR 2M x 16bit x 4BK

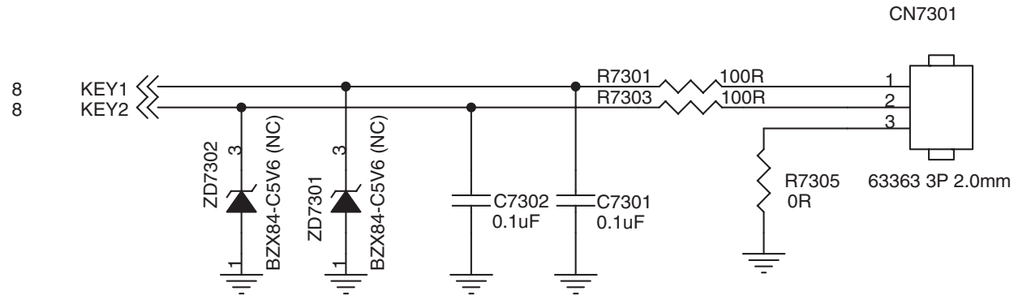
SDRAM 4M x 16



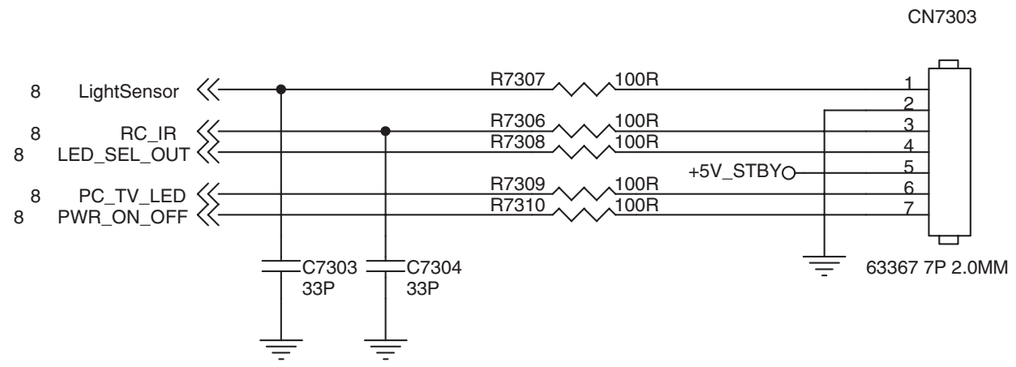
Scaler Board Schematic Diagram - KEY, IR BD & COMPAIR I/F

S-A10

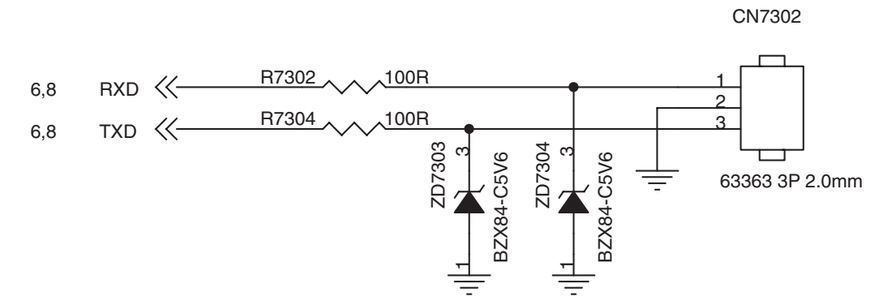
For Key BOARD



For IR BOARD



For Compair I/F

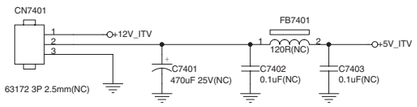


CN7301 A3
CN7302 C3
CN7303 B3
C7301 A2
C7302 A2
C7303 C1
C7304 C2
R7301 A2
R7302 D2
R7303 A2
R7304 D2
R7305 A3
R7306 B2
R7307 B2
R7308 B2
R7309 C2
R7310 C2
ZD7301 A1
ZD7302 A1
ZD7303 D2
ZD7304 D2

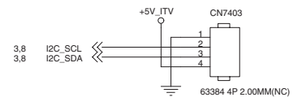
Scaler Board Schematic Diagram - ITV I/F

S-A11

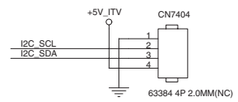
Power for I-BOARD (Level 2)



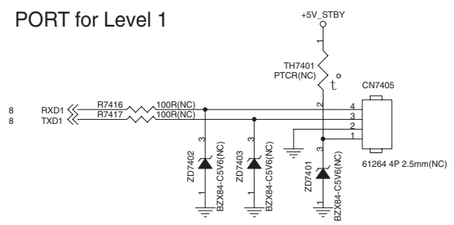
Control I/F for I-BOARD (Level 2)



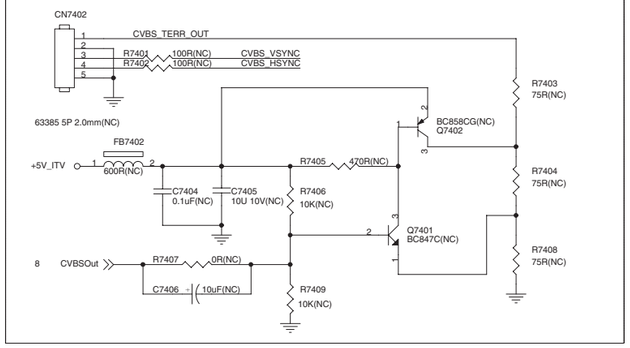
2nd Control I/F (Level 2)



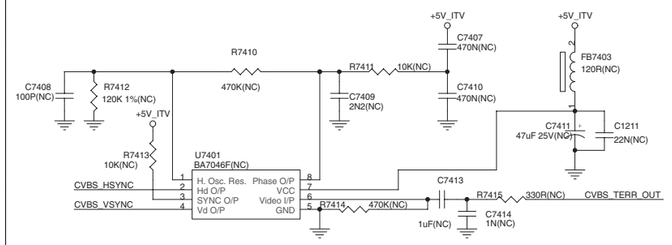
PORT for Level 1



Video I/F for I-BOARD (Level 2)

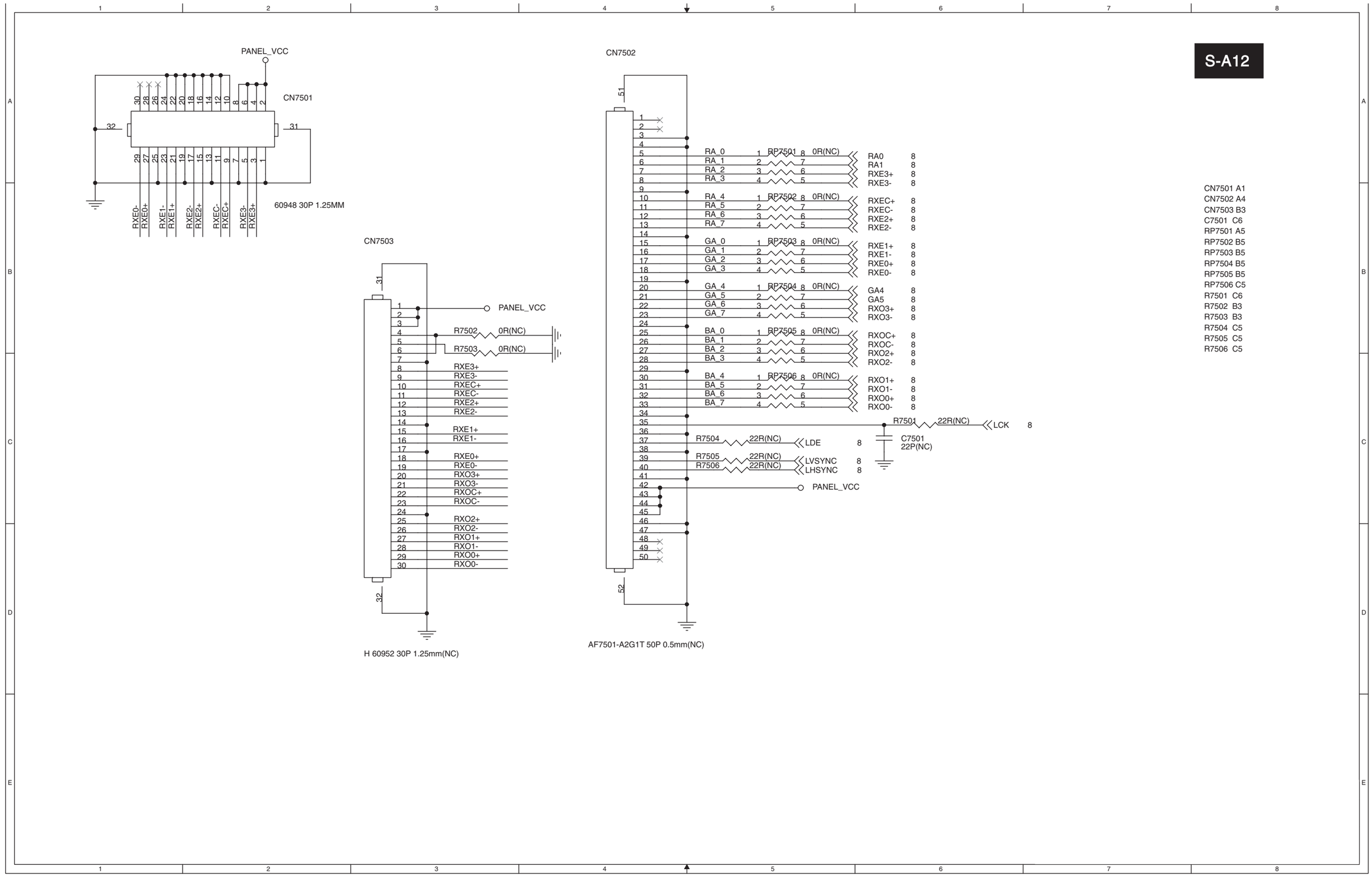


CVBS Sync Slicer (Level 2)



CN7401 A1
CN7402 A5
CN7403 C2
CN7404 D2
CN7405 F3
C1211 D8
C7401 A2
C7402 A2
C7403 A3
C7404 B5
C7405 B6
C7406 C5
C7407 D7
C7408 D5
C7409 D6
C7410 D7
C7411 D7
C7413 E7
C7414 E7
FB7401 A2
FB7402 B5
FB7403 D7
Q7401 B6
Q7402 B7
R7401 A5
R7402 A5
R7403 A7
R7404 B7
R7405 B6
R7406 B6
R7407 B5
R7408 B7
R7409 C6
R7410 D6
R7411 D6
R7412 D5
R7413 D5
R7414 E6
R7415 E7
R7416 F2
R7417 F2
TH7401 E3
U7401 D5
ZD7401 F3
ZD7402 F2
ZD7403 F2

Scaler Board Schematic Diagram - PANEL I/F



Scaler Board Schematic Diagram - AUDIO I/F

S-A13

YPbPr2_AU_INL 14
YPbPr2_AU_INR 14

CN6101
JACK

YPbPr1_AU_INL
YPbPr1_AU_INR

R6101 10K C6102 2.2uF AUL0 8
C6101 22P R6102 12K C6103 560P

R6103 10K C6104 2.2uF AUR0 8
C6105 22P R6104 12K C6106 560P

AV_AU_INL
AV_AU_INR

CN6102
JACK

R6105 10K C6107 2.2uF AUL1 8
C6108 22P R6106 12K C6109 560P

R6107 10K C6110 2.2uF AUR1 8
C6111 22P R6108 12K C6112 560P

CN6103
PHONEJACK

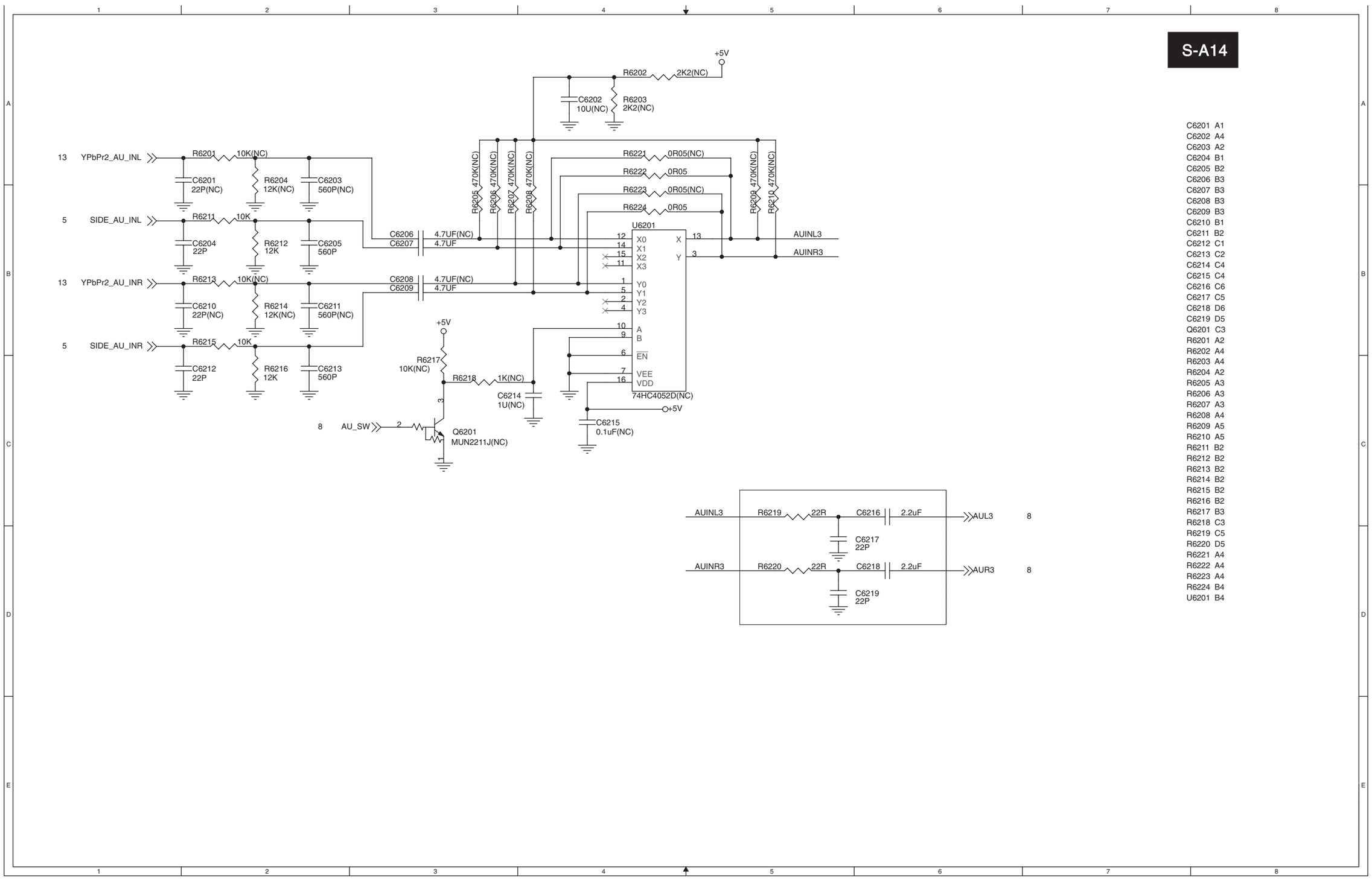
PC_AU_INL
PC_AU_INR

R6109 10K C6113 2.2uF AUL2 8
C6114 22P R6110 12K C6115 560P

R6111 10K C6116 2.2uF AUR2 8
C6117 22P R6112 12K C6118 560P

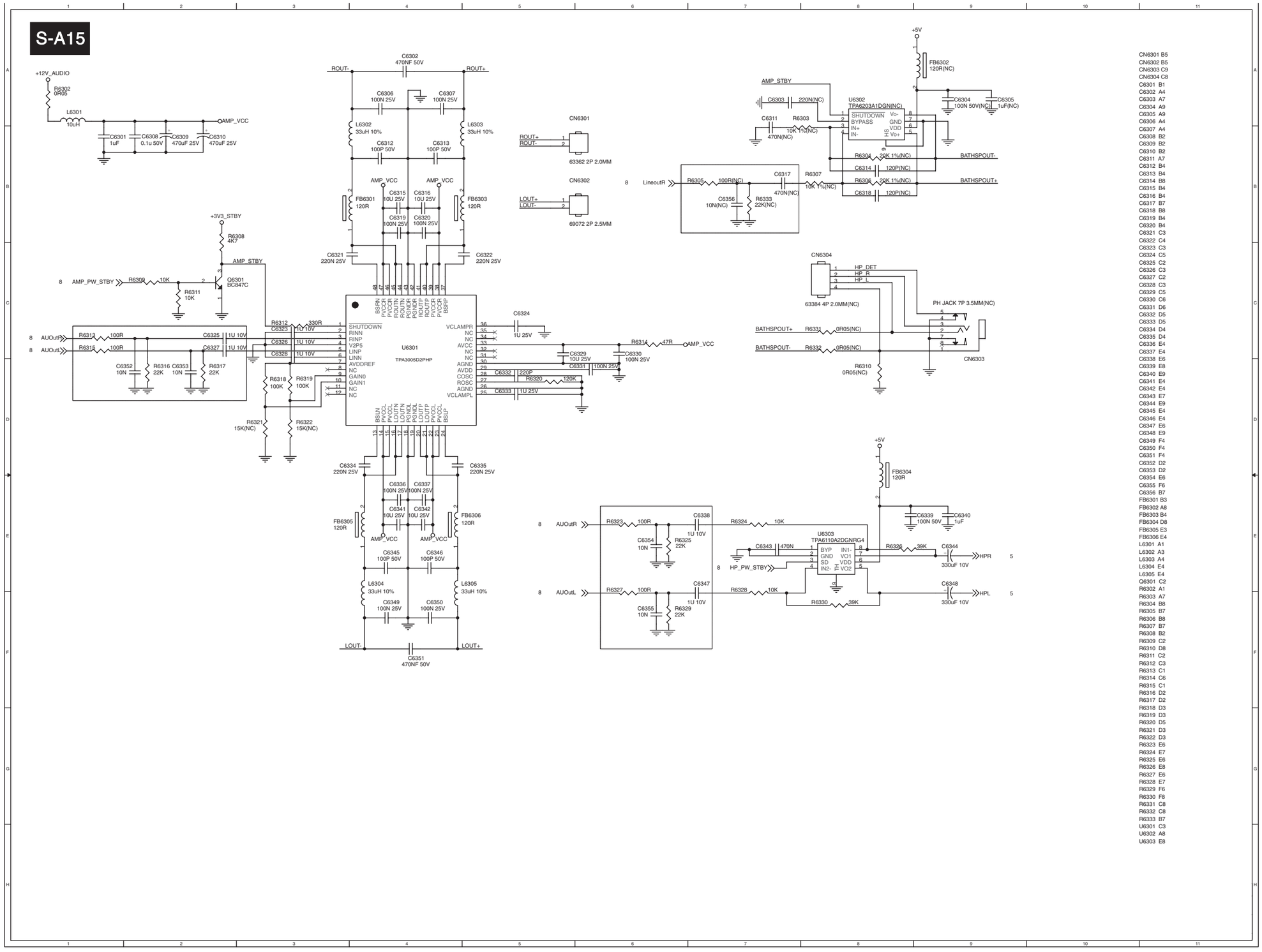
CN6101 A1
CN6102 C1
CN6103 C1
C6101 A3
C6102 A5
C6103 A4
C6104 B5
C6105 B3
C6106 B4
C6107 B5
C6108 B3
C6109 B4
C6110 C5
C6111 C3
C6112 C4
C6113 C5
C6114 C3
C6115 C4
C6116 D5
C6117 D3
C6118 D4
R6101 A4
R6102 A4
R6103 B4
R6104 B4
R6105 B4
R6106 B4
R6107 C4
R6108 C4
R6109 C4
R6110 C4
R6111 D4
R6112 D4

Scaler Board Schematic Diagram - AUDIO MUX



C6201 A1
C6202 A4
C6203 A2
C6204 B1
C6205 B2
C6206 B3
C6207 B3
C6208 B3
C6209 B3
C6210 B1
C6211 B2
C6212 C1
C6213 C2
C6214 C4
C6215 C4
C6216 C6
C6217 C5
C6218 D6
C6219 D5
Q6201 C3
R6201 A2
R6202 A4
R6203 A4
R6204 A2
R6205 A3
R6206 A3
R6207 A3
R6208 A4
R6209 A5
R6210 A5
R6211 B2
R6212 B2
R6213 B2
R6214 B2
R6215 B2
R6216 B2
R6217 B3
R6218 C3
R6219 C5
R6220 D5
R6221 A4
R6222 A4
R6223 A4
R6224 B4
U6201 B4

Scaler Board Schematic Diagram - AUDIO AMP



CN6301 B5
CN6302 B5
CN6303 C9
CN6304 C8
C6301 B1
C6302 A4
C6303 A7
C6304 A9
C6305 A9
C6306 A4
C6307 A4
C6308 B2
C6309 B2
C6310 B2
C6311 A7
C6312 B4
C6313 B4
C6314 B8
C6315 B4
C6316 B4
C6317 B7
C6318 B8
C6319 B4
C6320 B4
C6321 C3
C6322 C4
C6323 C3
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C6325 C2
C6326 C3
C6327 C2
C6328 C3
C6329 C5
C6330 C6
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C6333 D5
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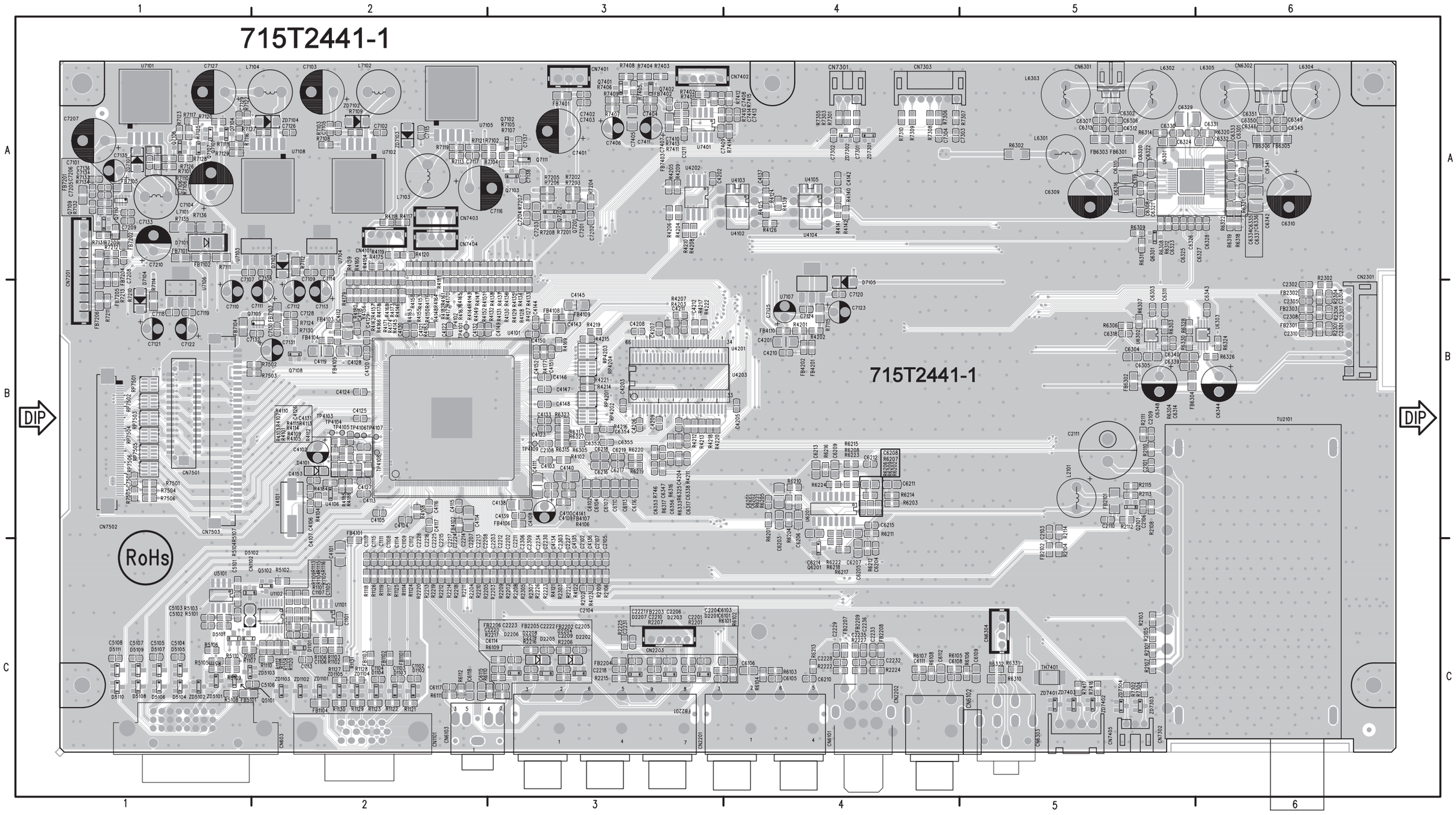
C6353 D2
C6354 E6
C6355 F6
C6356 B7
FB6301 B3
FB6302 A8
FB6303 B4
FB6304 D8
FB6305 E3
FB6306 E4
L6301 A1
L6302 A3
L6303 A4
L6304 E4
L6305 E4
Q6301 C2
R6302 A1
R6303 A7
R6304 B8
R6305 B7
R6306 B8
R6307 B7
R6308 B2
R6309 C2
R6310 D8
R6311 C2
R6312 C3
R6313 C1
R6314 C6
R6315 C1
R6316 D2
R6317 D2
R6318 D3
R6319 D3
R6320 D5
R6321 D3
R6322 D3
R6323 E6
R6324 E7
R6325 E6
R6326 E8
R6327 E6
R6328 E7
R6329 F6
R6330 F8
R6331 C8
R6332 C8
R6333 B7
U6301 C3
U6302 A8
U6303 E8

Scaler Board Layout(Top Side)



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C1102 C2 C2204 C3 C2233 C4 C4116 B2 C4145 B3 C6101 C3 C6212 B4 C6322 A5 C6351 A6 C7124 B4 C7401 A3 CN7201 A1 D5106 C1 FB4102 B2 FB7402 A3 Q7201 A3 R1126 C2 R2209 C3 R4104 B2 R4135 A3 R4164 A2 R4207 B3 R6103 C4 R6220 B3 R6326 B6 R7123 A1 R7303 A4 R7504 B1 U6302 B5 ZD7402 C5
C1103 C2 C2205 C3 C2234 C3 C4117 B2 C4146 B3 C6102 B3 C6213 B4 C6323 A5 C6352 B3 C7125 B4 C7402 A3 CN7301 A4 D5107 C1 FB4103 B2 FB7403 A3 Q7202 A3 R1127 C2 R2210 C2 R4105 B2 R4136 A3 R4165 A2 R4208 A3 R6104 C4 R6221 B4 R6327 B3 R7124 B2 R7304 C5 R7505 B1 U6303 B5 ZD7403 C5
C1104 C2 C2206 C3 C2235 C4 C4118 B2 C4147 B3 C6103 C3 C6214 B4 C6324 A5 C6353 B3 C7126 A2 C7403 A3 CN7302 C5 D5108 C1 FB4104 B2 L2101 B5 Q7401 A3 R1128 C2 R2211 C2 R4106 B3 R4137 A3 R4166 B2 R4209 A3 R6105 C4 R6222 B4 R6328 B5 R7125 A1 R7305 A4 R7506 B1 U7101 A1
C1105 C2 C2207 C2 C2236 C4 C4119 B2 C4148 B3 C6104 B3 C6215 B4 C6325 A5 C6354 B3 C7127 A1 C7404 A3 CN7303 A4 D5109 C1 FB4105 B2 L6301 A5 Q7402 A3 R1129 C2 R2212 C2 R4107 B2 R4138 A3 R4167 B2 R4210 A3 R6106 C5 R6223 B4 R6330 B5 R7126 A1 R7306 A4 RP4201 B3 U7102 A2
C1106 C2 C2208 C2 C2301 B6 C4120 B2 C4149 B2 C6105 C4 C6216 B3 C6326 A5 C6355 B3 C7128 B2 C7405 A3 CN7401 A3 D5110 C1 FB4106 B3 L6302 A5 R1101 C2 R1130 C2 R2213 C2 R4108 B2 R4139 A4 R4168 B2 R4211 B3 R6107 C4 R6224 B4 R6331 C5 R7127 A2 R7307 A4 RP4202 B3 U7103 A2
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C1108 C2 C2210 C3 C2303 C3 C4122 B2 C4151 B3 C6107 B3 C6218 B3 C6328 A6 C7101 A1 C7130 B2 C7407 A3 CN7403 A2 D7101 A1 FB4108 B3 L6304 A6 R1103 C2 R2101 C5 R2215 C3 R4110 B2 R4141 A4 R4170 A2 R4213 B3 R6109 C3 R6303 B5 R6333 B3 R7129 A1 R7309 A4 RP4204 B3 U7105 A2
C1109 C2 C2211 C3 C2304 B6 C4123 B3 C4152 B3 C6108 C4 C6219 B3 C6329 A5 C7102 A2 C7131 B2 C7408 A3 CN7404 A2 D7102 A2 FB4109 B3 L6305 A6 R1104 C2 R2102 C3 R2216 C3 R4112 B2 R4142 A4 R4171 B2 R4214 B3 R6110 C2 R6304 B5 R7101 A1 R7130 B2 R7310 A4 RP7501 B1 U7106 B1
C1110 C2 C2212 C3 C2305 B6 C4124 B2 C4153 B2 C6109 C5 C6301 A6 C6330 A5 C7103 A2 C7132 B2 C7409 A3 CN7405 C5 D7104 B1 FB4110 B4 L7101 A1 R1105 C2 R2103 C5 R2217 C3 R4113 B2 R4143 A2 R4172 B2 R4215 B3 R6111 C2 R6305 B3 R7102 A2 R7131 A1 R7401 A3 R7502 B1 U7107 B4
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C1112 C2 C2214 C2 C2307 B6 C4126 B2 C4202 A3 C6111 C4 C6303 B5 C6332 A5 C7105 A2 C7134 A1 C7411 A3 CN7502 B1 FB1101 C2 FB4202 B4 L7103 A2 R1107 C1 R2105 C5 R2219 C2 R4115 B2 R4145 B2 R4174 B2 R4217 B3 R6201 B4 R6307 B5 R7104 A2 R7133 A1 R7403 A3 RP7504 B1 U7401 A3
C1113 C2 C2215 C2 C2308 B6 C4127 B2 C4203 B3 C6112 C4 C6304 B5 C6333 A6 C7106 A1 C7135 A1 C7413 A4 CN7503 B1 FB1102 C2 FB5101 C1 L7104 A2 R1108 C2 R2106 C3 R2220 C2 R4117 A2 R4146 B2 R4175 A2 R4218 B3 R6202 B4 R6308 A5 R7105 A3 R7134 A1 R7404 A3 RP7505 B1 X4101 B2
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C1115 C2 C2217 C2 C2310 B6 C4129 B2 C4205 B4 C6114 C3 C6306 A5 C6335 A6 C7108 A2 C7137 A3 C7501 B1 D1102 C2 FB1104 C2 Fb6302 B5 Q2101 B5 R1110 C2 R2108 B5 R2222 C4 R4119 A2 R4148 B2 R4177 B3 R4220 B3 R6204 B4 R6310 C5 R7107 A3 R7136 A1 R7406 A3 TH7401 C5 ZD1102 C2
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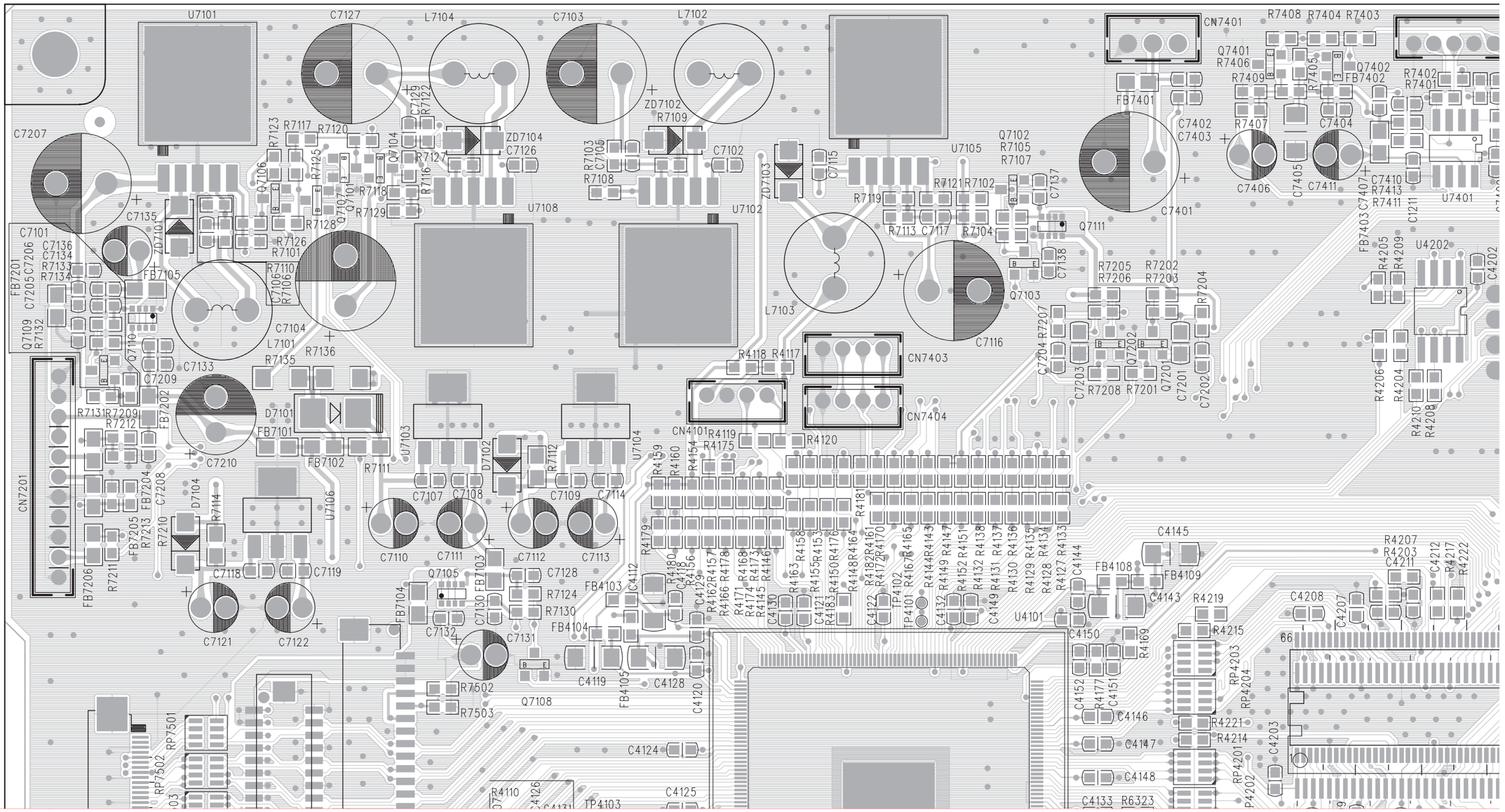
Scaler Board Layout(Top Side Part 1)

1 2 3

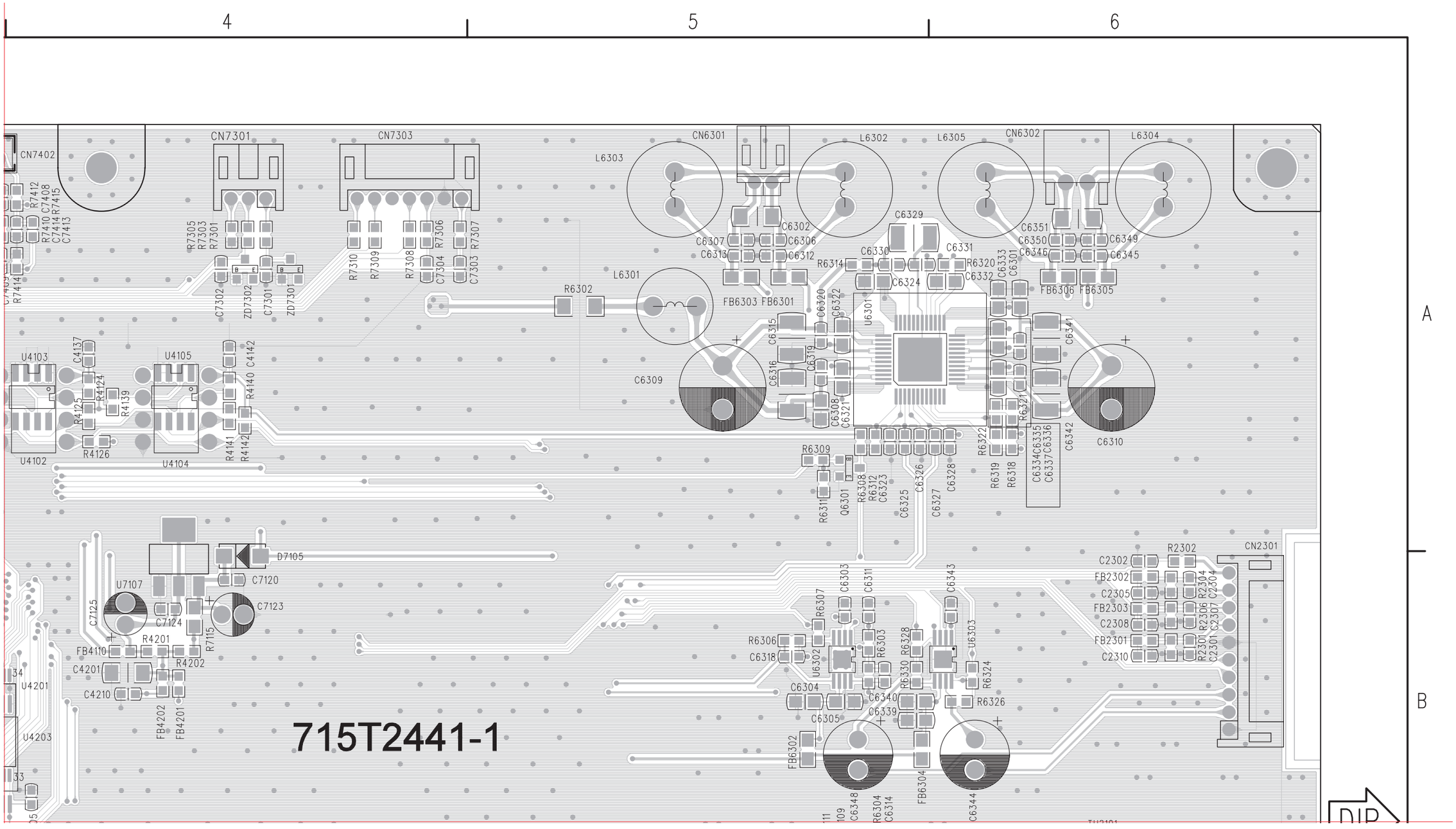
A

B

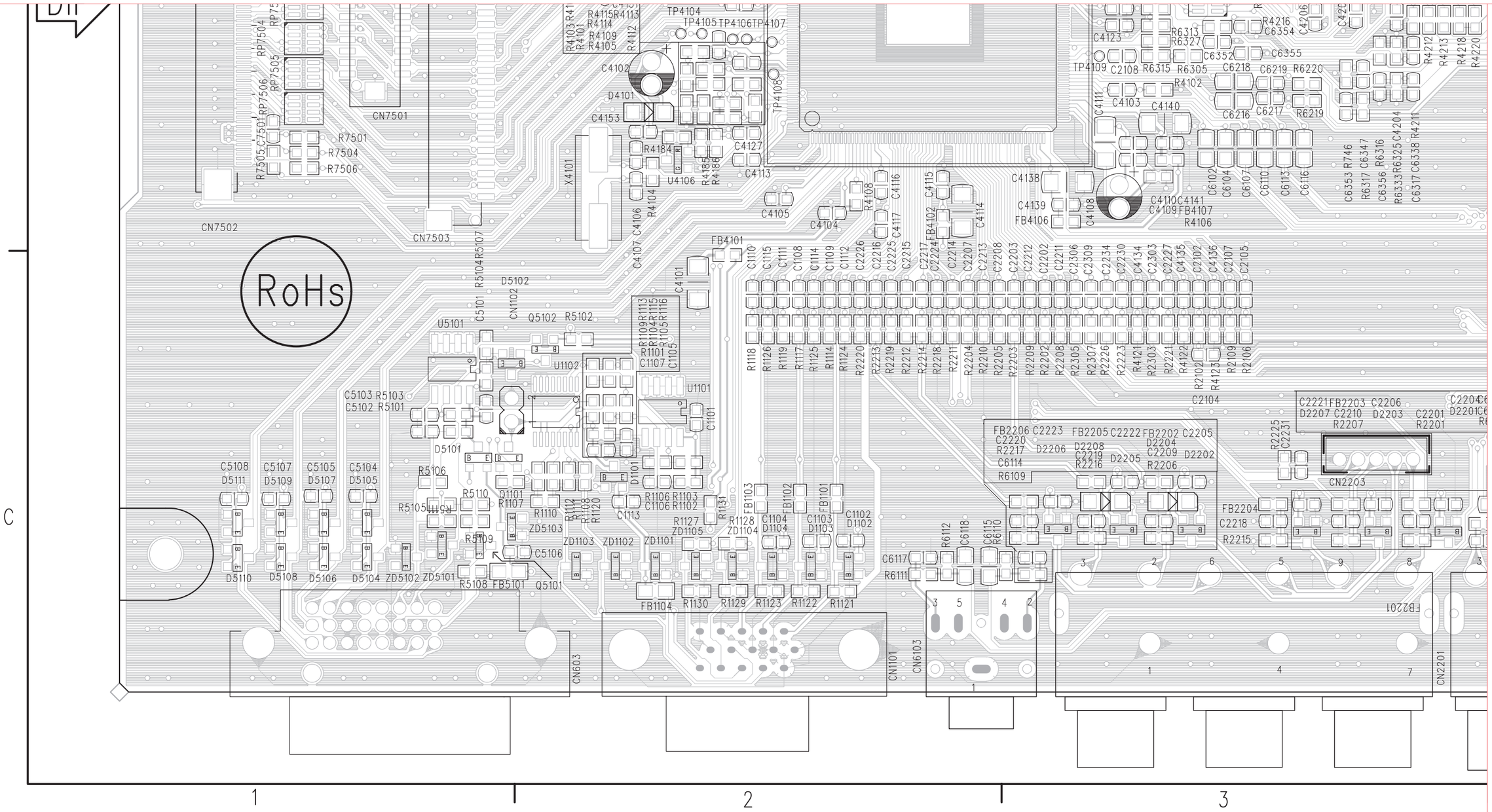
715T2441-1



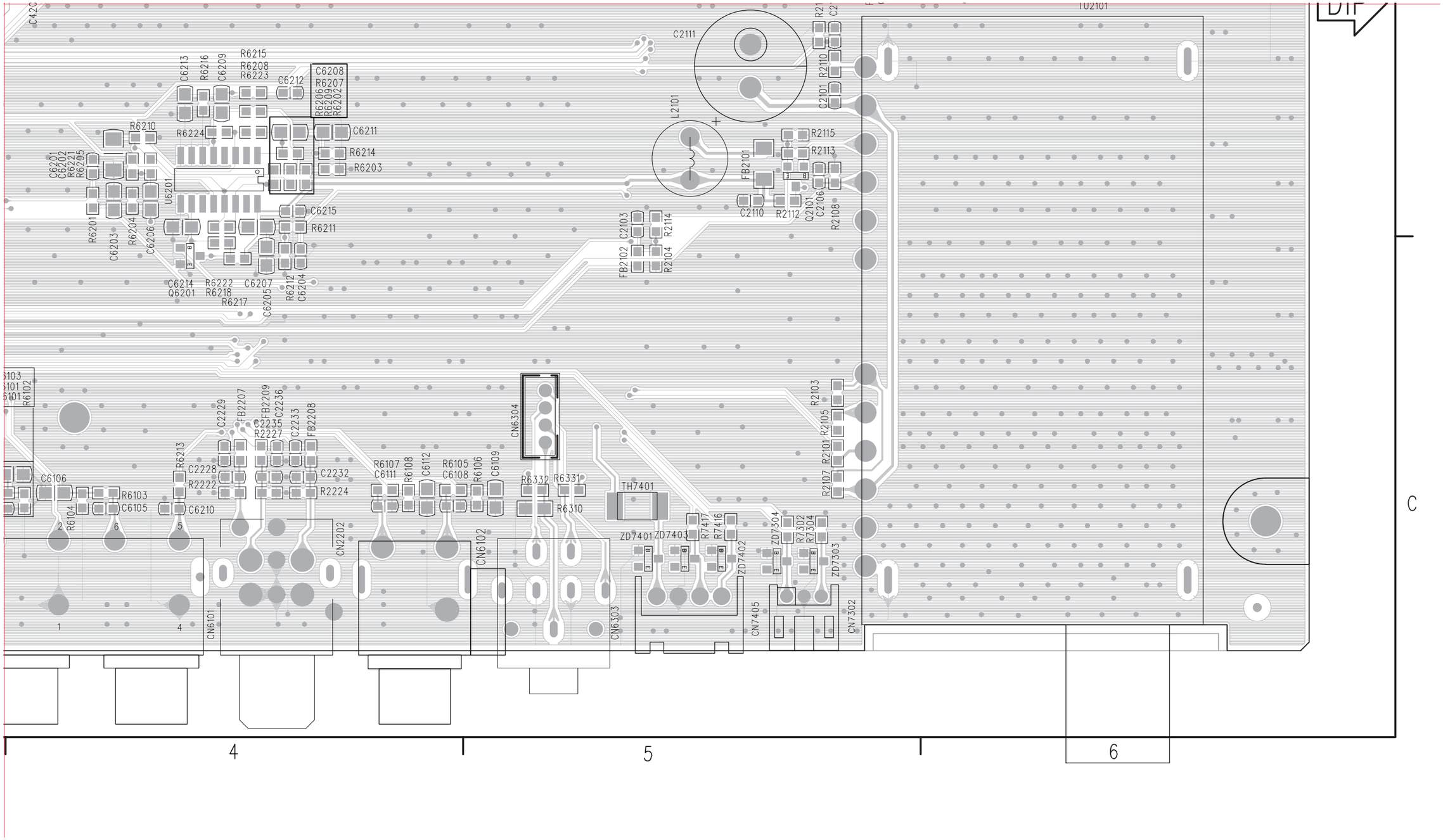
Scaler Board Layout(Top Side Part 2)



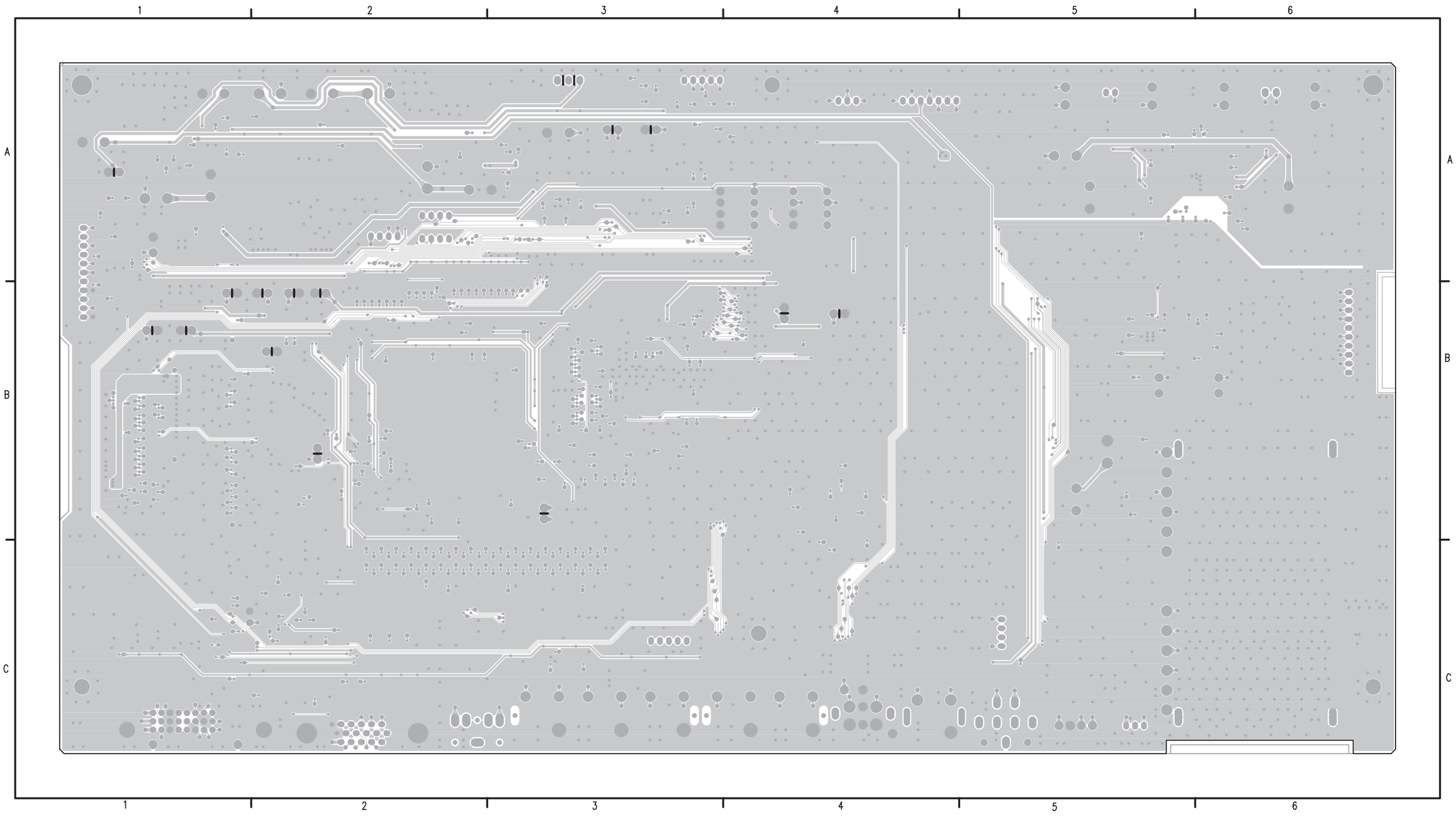
Scaler Board Layout(Top Side Part 3)



Scaler Board Layout(Top Side Part 4)



Scaler Board Layout(Bottom Side)

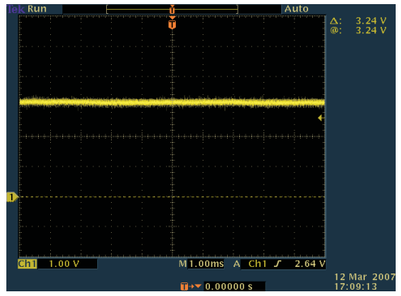


Waveform Diagram

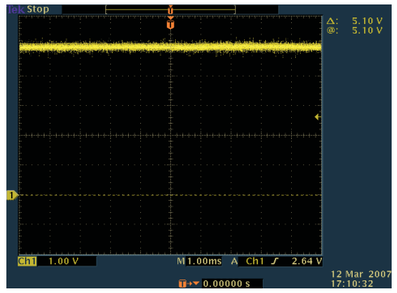
* AV: color bar
* YpbPr: color bar with 480P

* Audio :input 520mV with 1K hz sin wave
* TV signal : color Bar

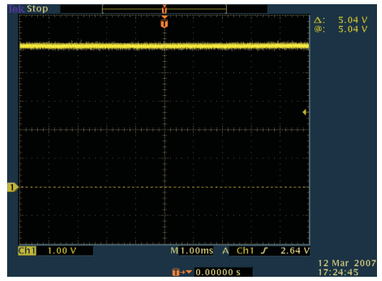
Pin 4 of 7104 (3.3V_STBY)



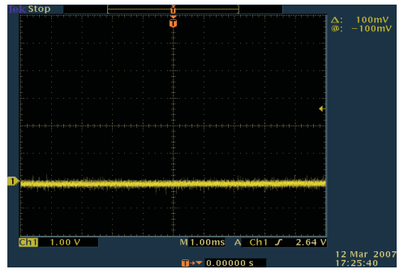
Pin 4 of 7105 (5V_STBY)



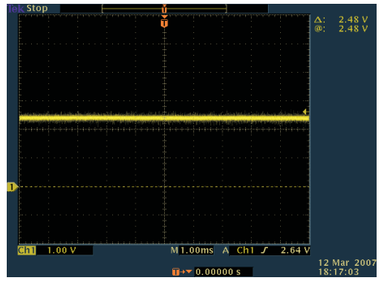
pin 8 of Q7111 (5V)



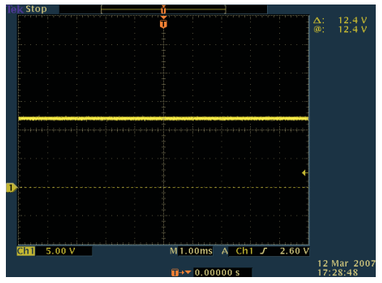
pin2 of Q7103 (PWR_SW)



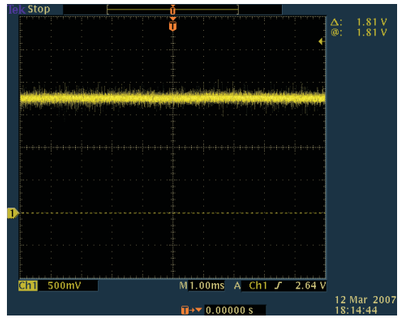
pin 2 of U7107 (2.5V)



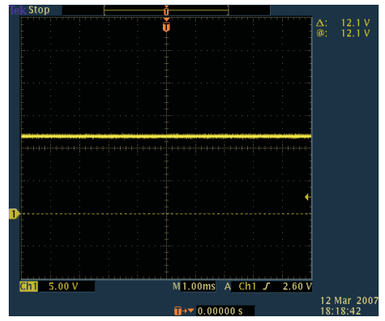
pin 4 of U7101(12V_AUDIO)



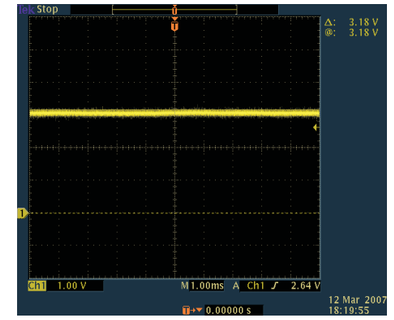
pin 3 of U7106 (1.8V)



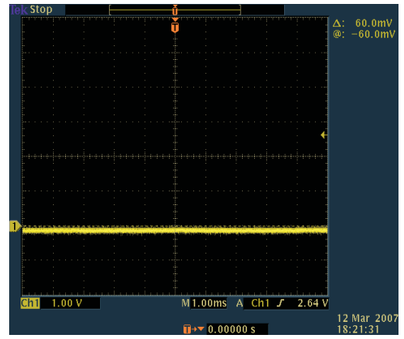
FB7104(PANEL_VCC)



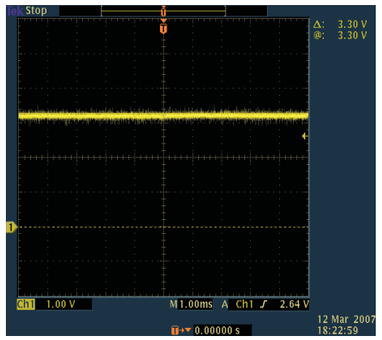
pin2 of Q7108(PANEL_PWR)



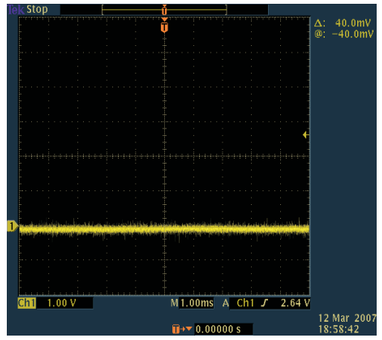
pin2 of Q7107 (AU_PWR_SW)



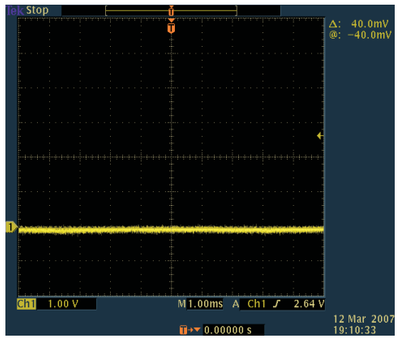
pin 3 of U7104 (3.3V)



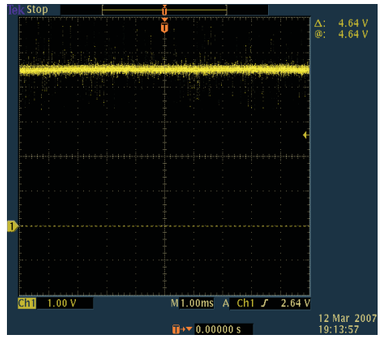
R7201 (BL_ADJ)



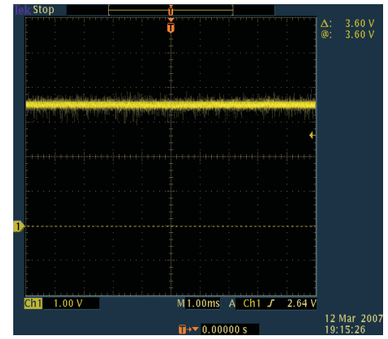
R7208(BL_EN)



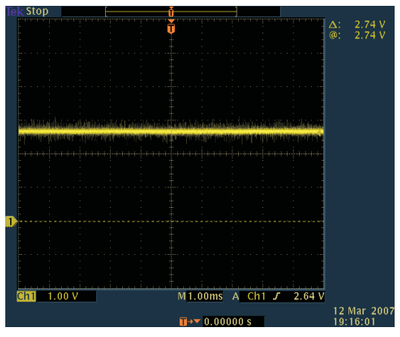
FB7204 (BRIGHT_ADJ)



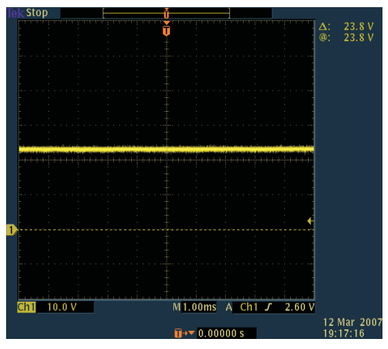
FB7205(inverter_ON_OFF)



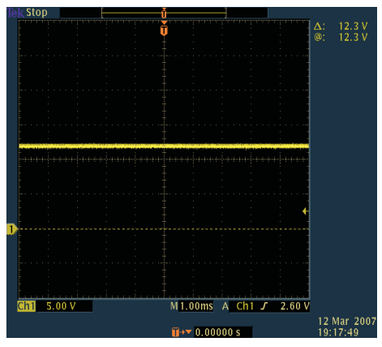
FB7206(ITV_12V_SW)



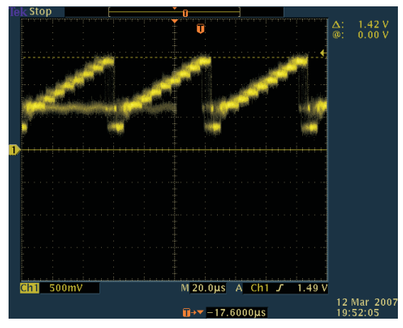
FB7201 (24V)



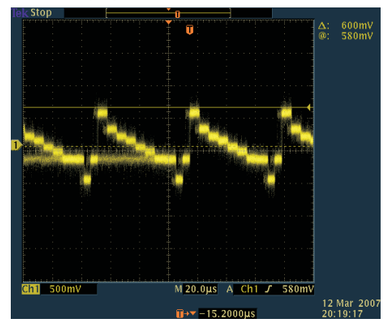
FB7202 (12V)



C2102 (Tuner_CVBS)

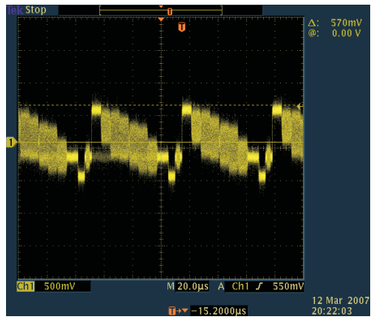


FB2205 (Y1)

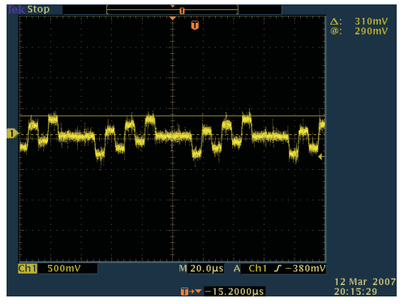


Waveform Diagram

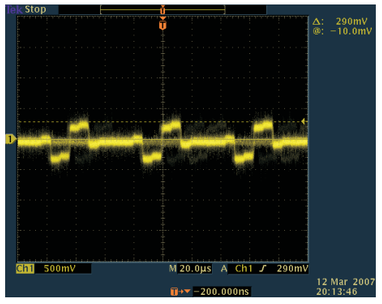
FB2207 (AV-CVBS)



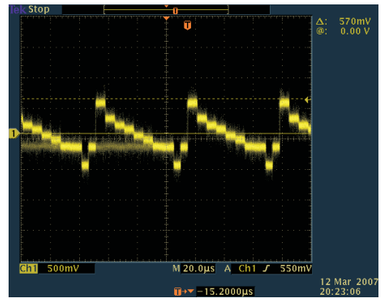
FB2206 (Pb1)



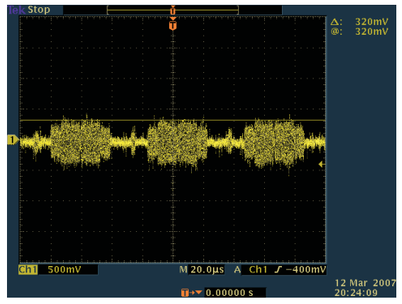
FB2204(Pr1)



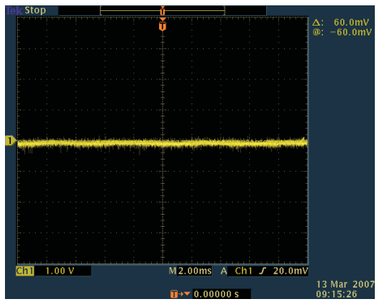
FB2208(SV_Y0)



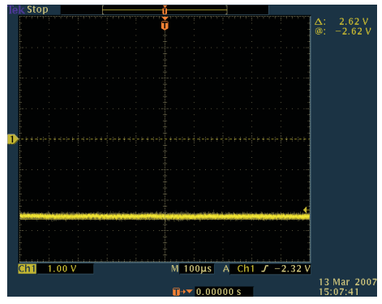
FB2209 (SV_C0)



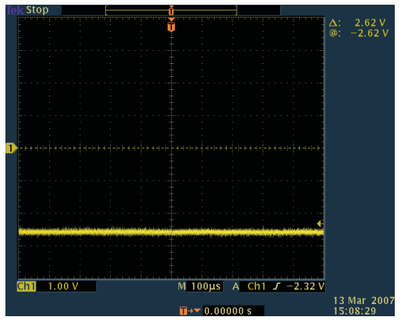
C2302 (HP_DET)



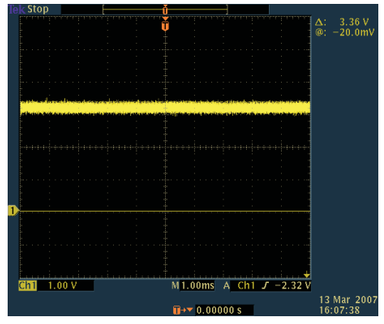
pin3 of CN2301(HPL)



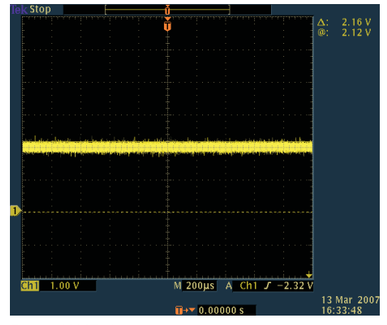
Pin2 of CN2301(HPR)



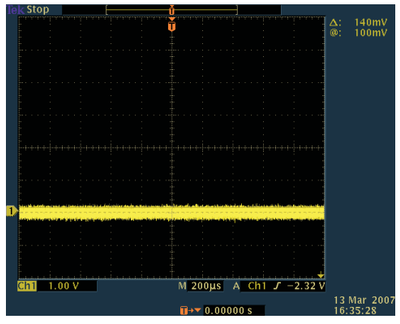
Pin 1 of Q5102 (DDC_WP)



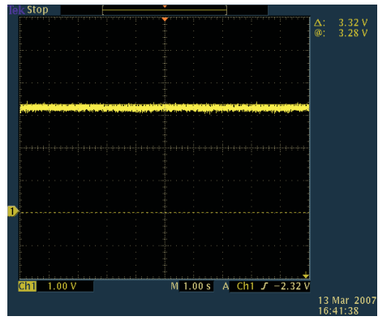
R4127(PC_TV-LED)



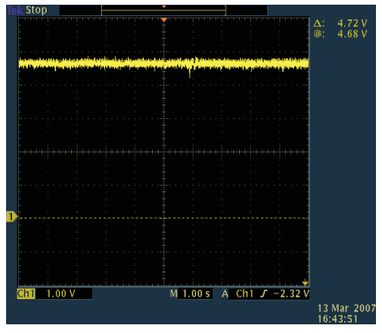
R4128(LED_SEL_OUT)



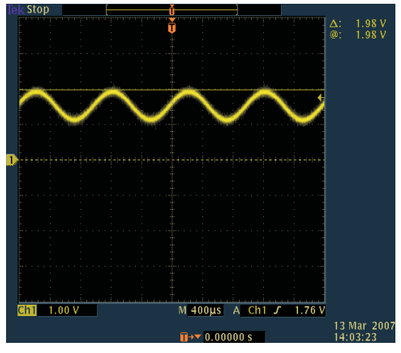
R4172(PWR_ON_OFF)



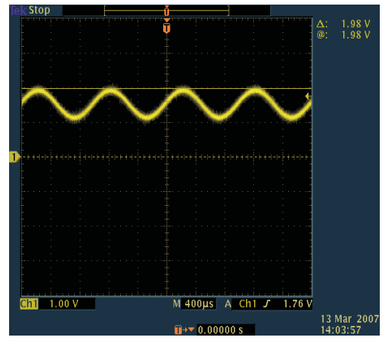
R4145(RC_IR)



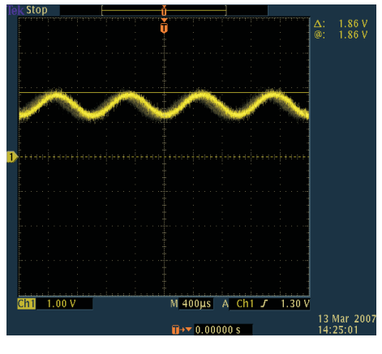
C6107(AUL1)



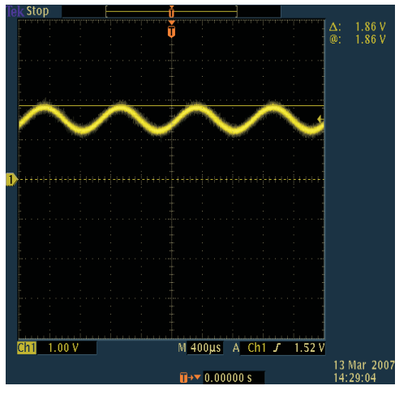
C6110(AUR2)



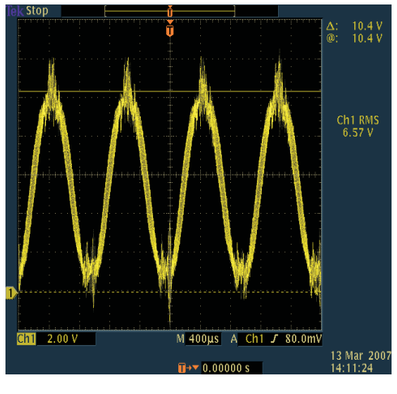
R6313(AUOoutR)



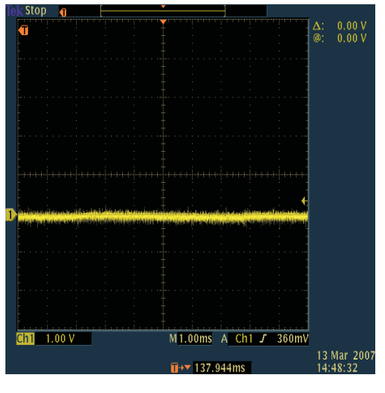
R6315(AUOutL)



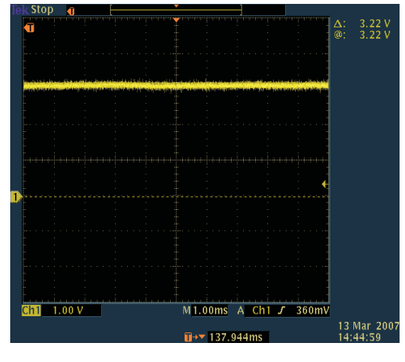
C6302(ROUT+)



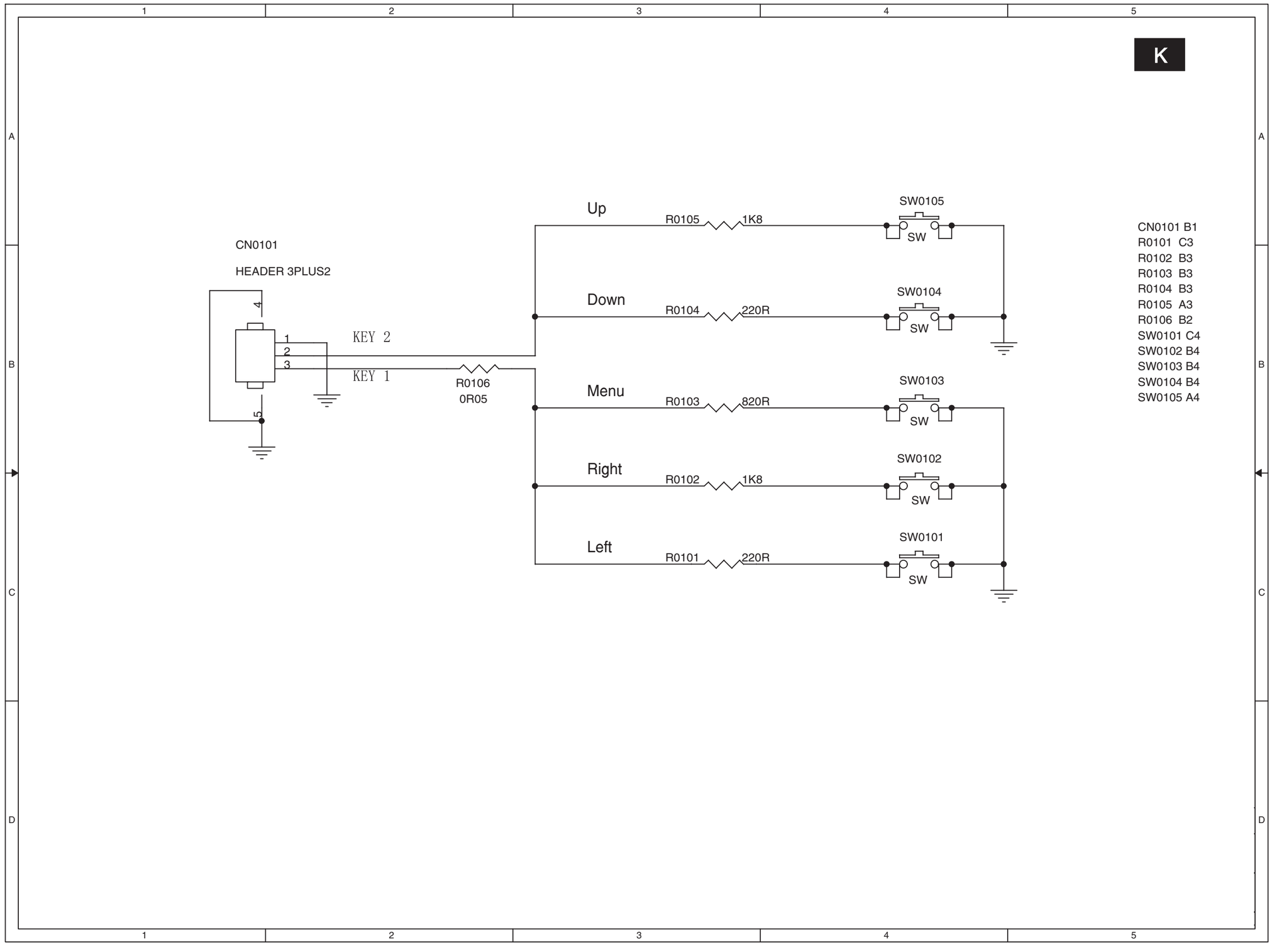
R6309(AMP_PW_STBY)



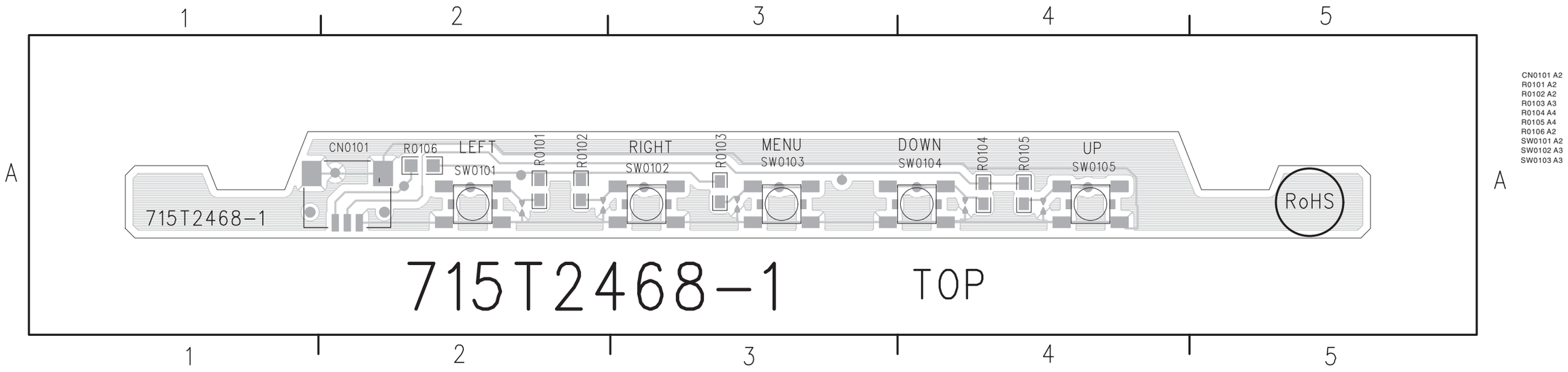
R4152(HP_PW_STBY)



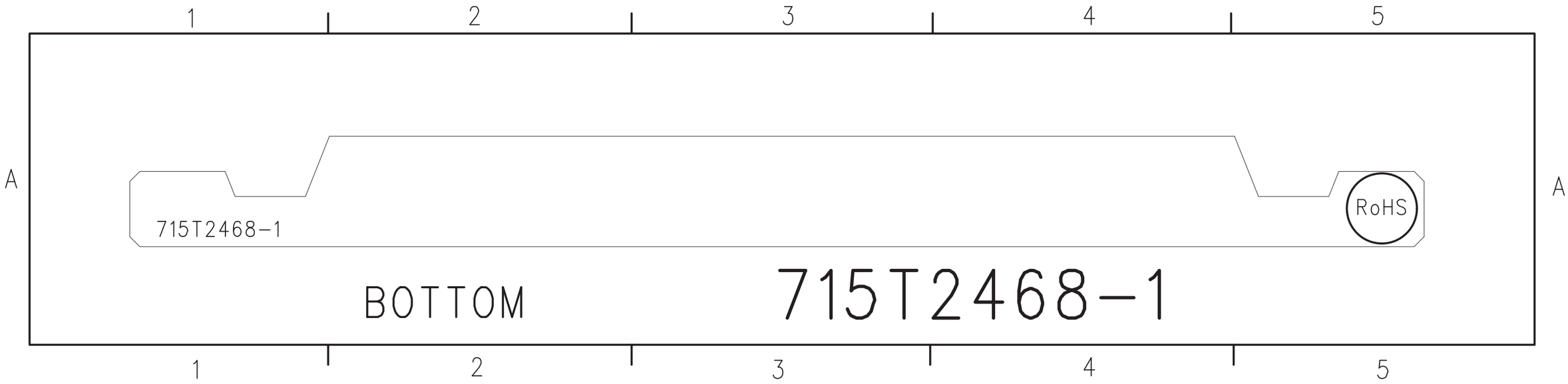
KEY Board Schematic Diagram



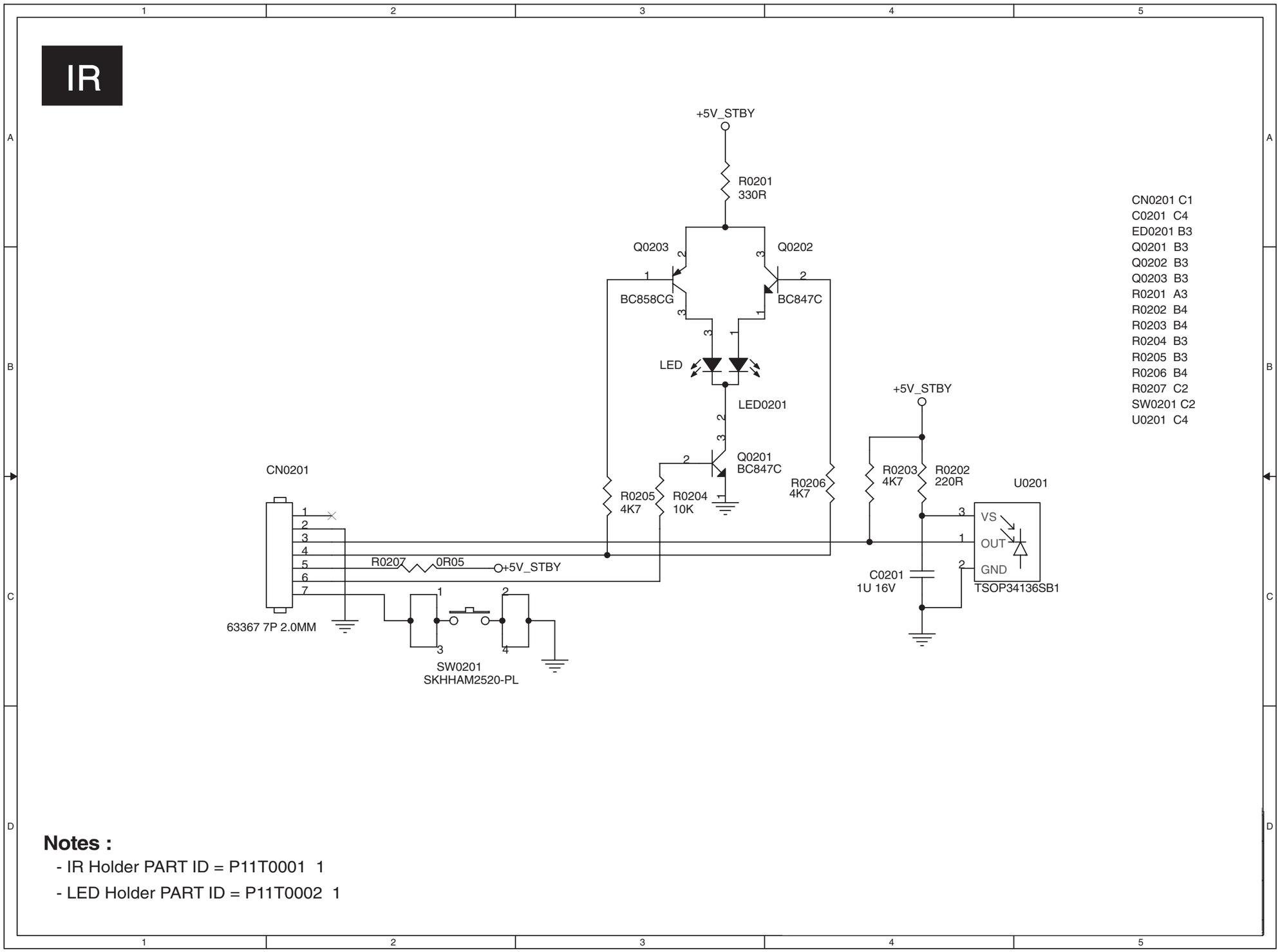
KEY Board Layout(Top Side)



KEY Board Layout(Bottom Side)



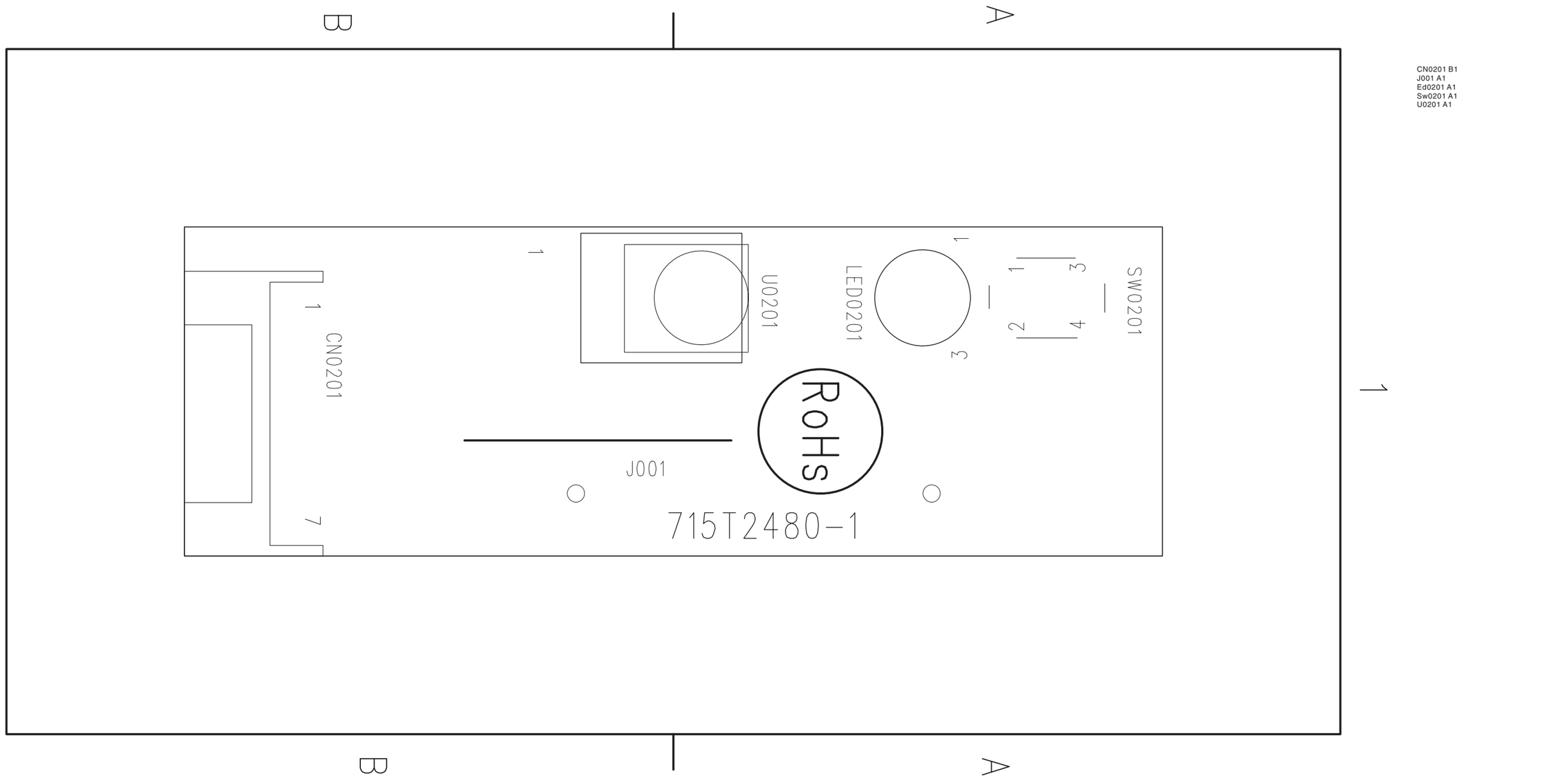
IR Board Schematic Diagram



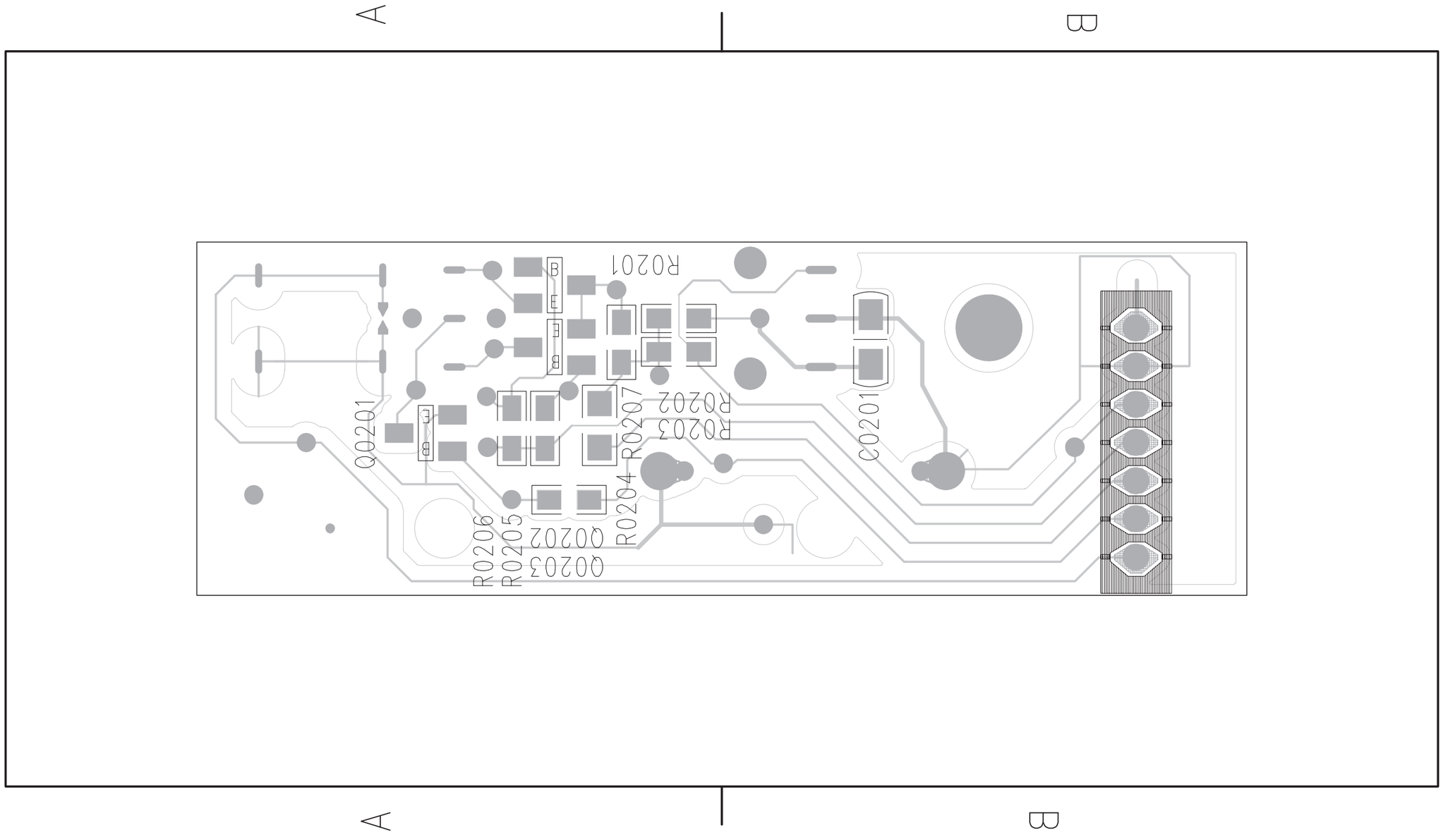
Notes :

- IR Holder PART ID = P11T0001 1
- LED Holder PART ID = P11T0002 1

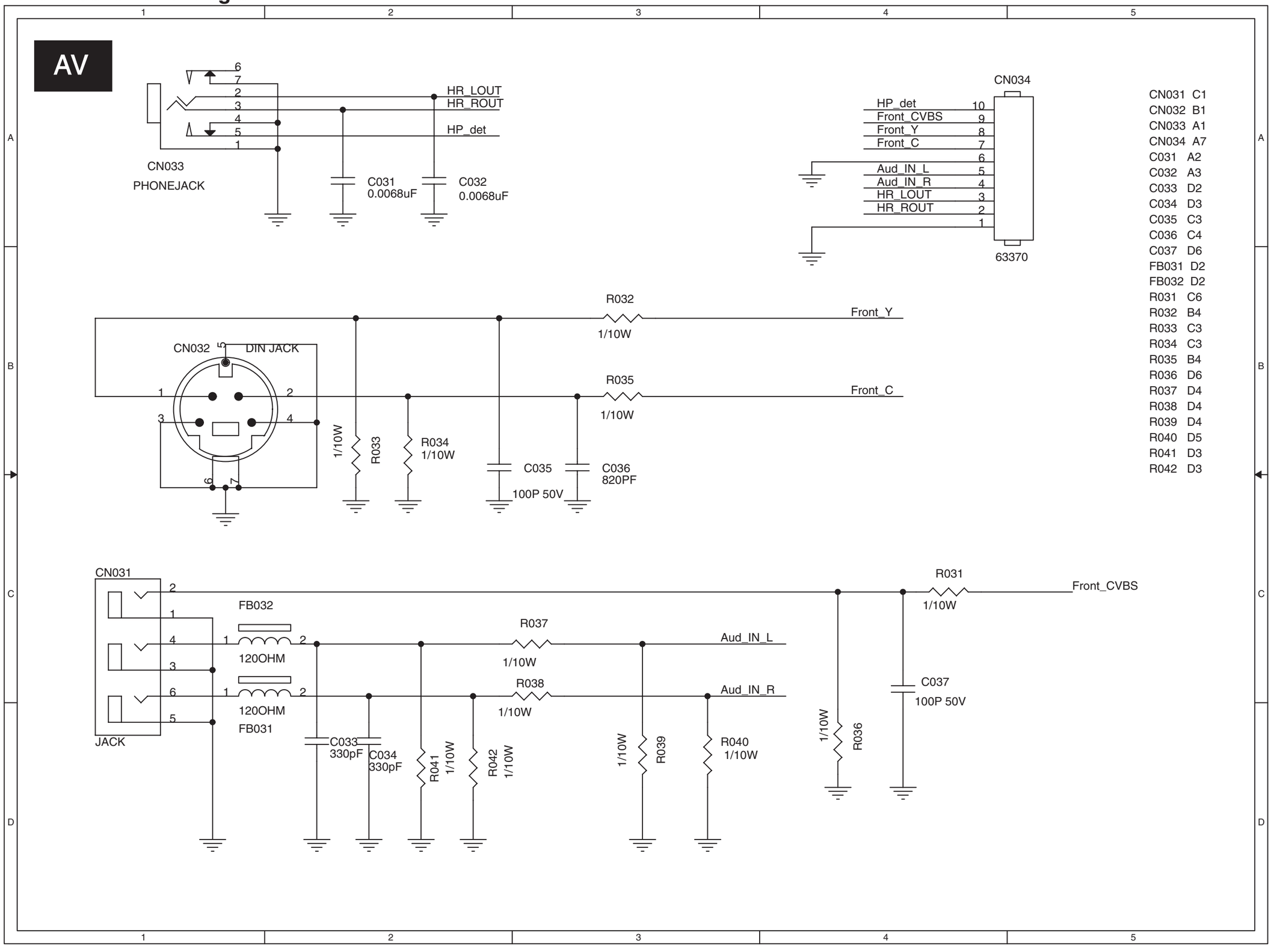
IR Board Layout(Top Side)



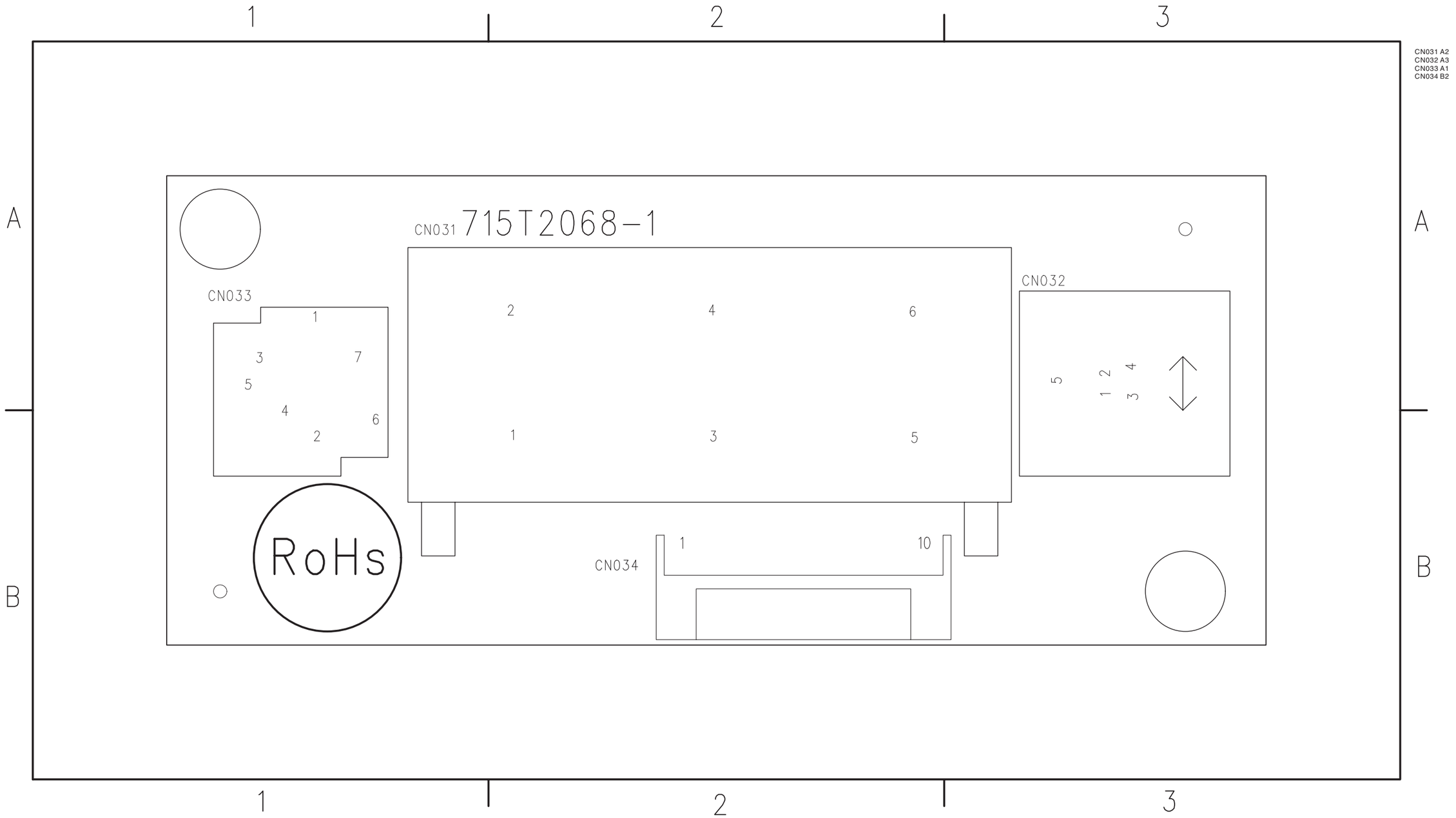
IR Board Layout(Bottom Side)



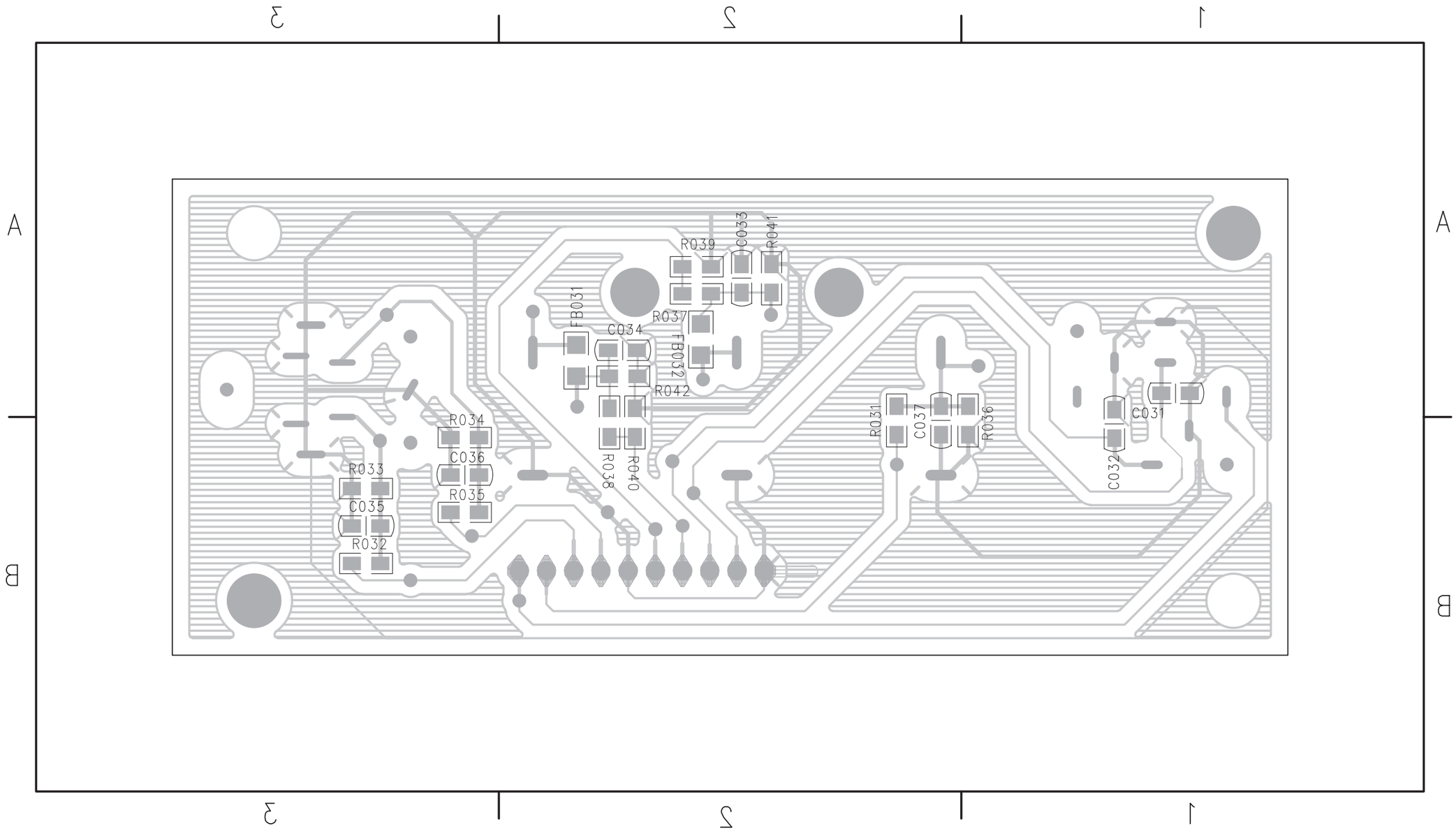
SideAV Board Schematic Diagram



SideAV Board Layout(Top Side)



SideAV Board Layout (Bottom Side)



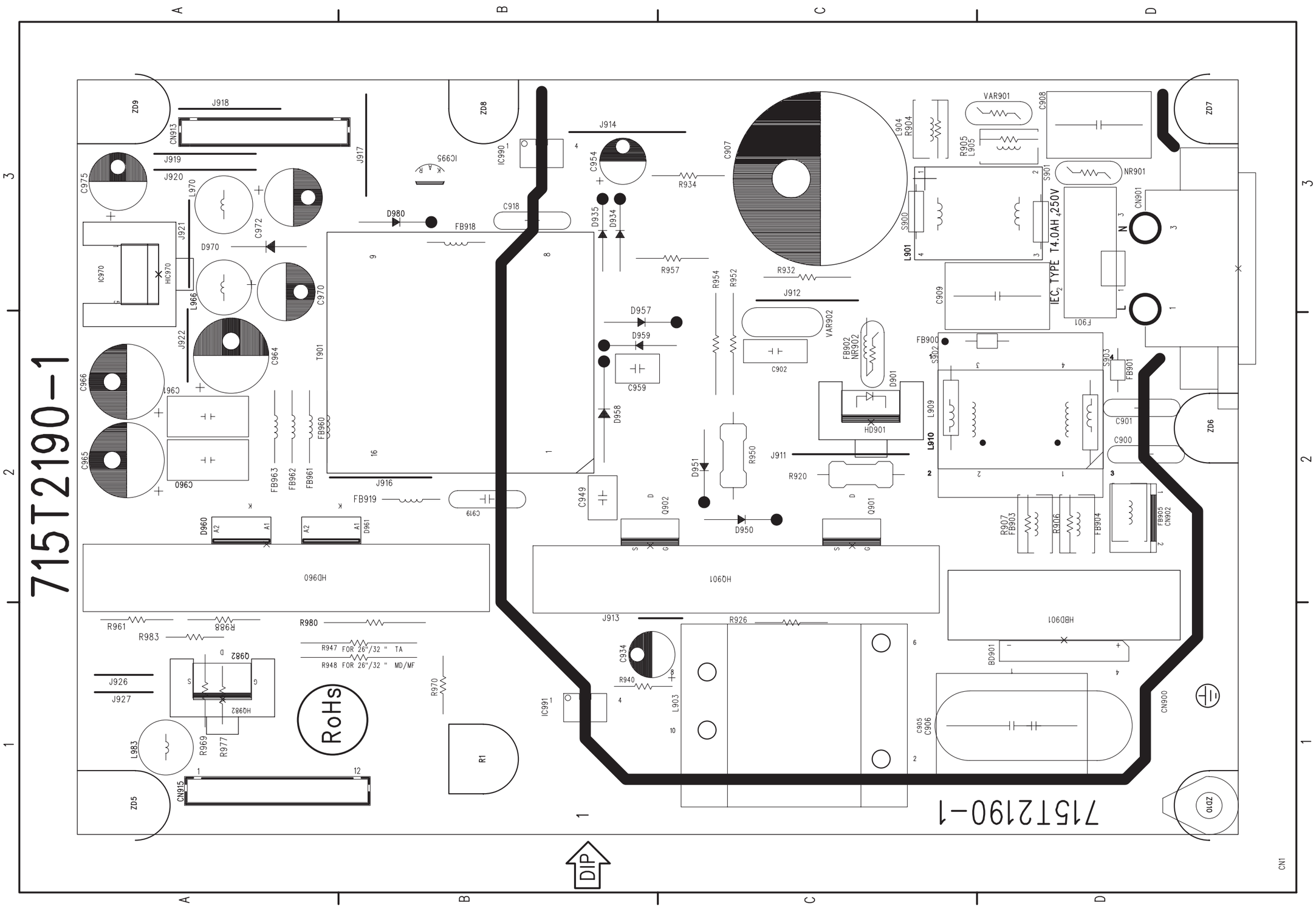
C031 A1
C032 B1
C033 A2
C034 A2
C035 B3
C036 B3
C037 B2
FB031 A2
FB032 A2
R031 B2
R032 B3
R033 B3
R034 B3
R035 B3
R036 B1
R037 A2
R038 B2
R039 A2
R040 B2
R041 A2
R042 A2

Power Board Schematic Diagram

P

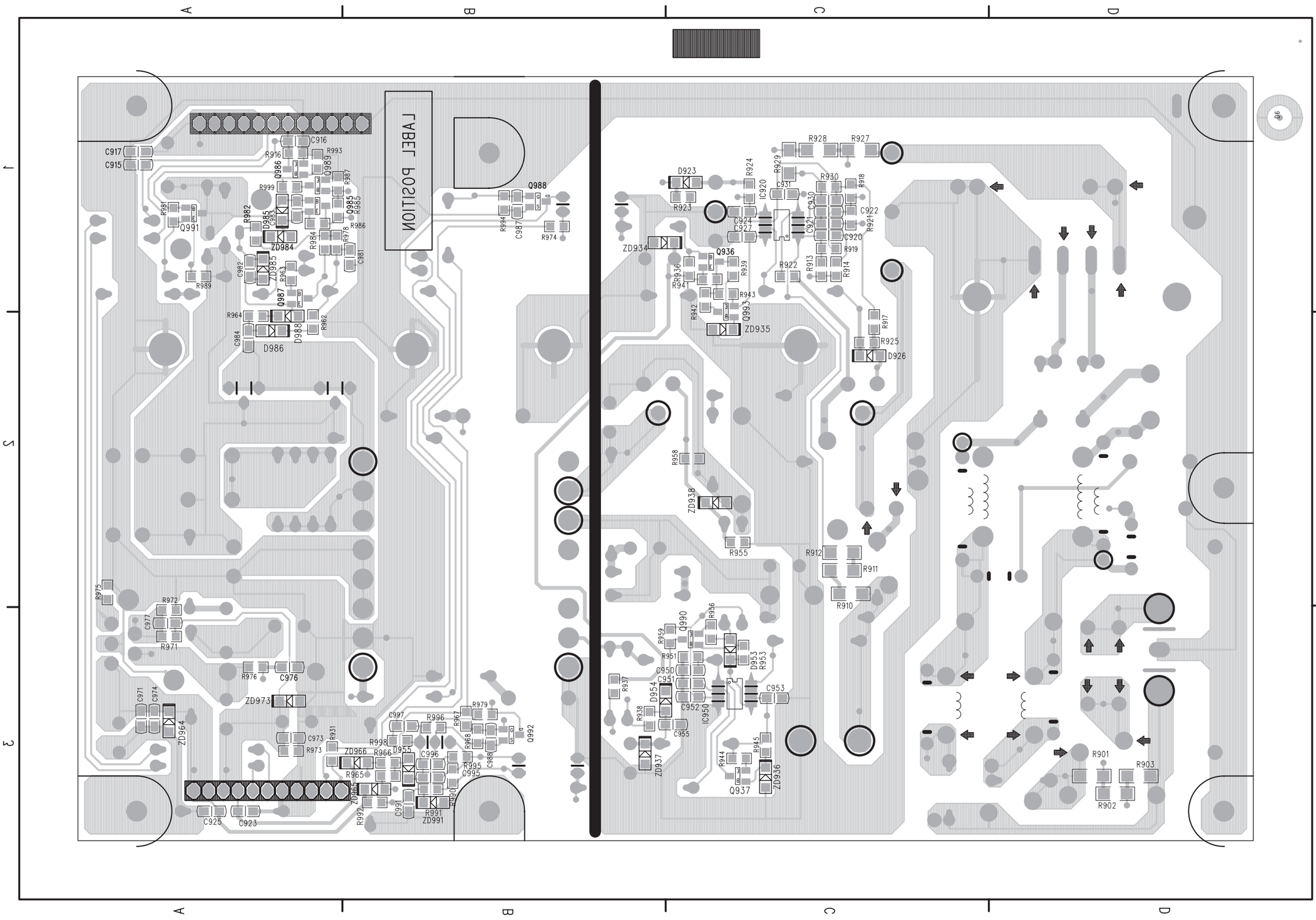
Note	R947	R948
For 26" and 32" MF/MD project	NI	Jump
For 26" and 32" TA project	Jump	NI

Power Board Layout (Top Side)



BD901 D1 IC990 B3
C900 D2 IC991 B1
C901 D2 IC995 B3
C902 C2 J911 C2
C905 D1 J912 C3
C906 D1 J913 C1
C907 C3 J914 C3
C908 D3 J916 B2
C909 D3 J917 B3
C918 B3 J918 A3
C919 B2 J919 A3
C949 B2 J920 A3
C954 B3 J921 A3
C959 B2 J926 A1
C960 A2 J927 A1
C961 A2 L901 D3
C964 A2 L903 C1
C965 A2 L904 C3
C966 A2 L905 D3
C970 A3 L909 D2
C972 A3 L910 D2
C975 A3 L966 A3
CN900 D1 L970 A3
CN901 D3 L983 A1
CN902 D2 NR901 D3
CN913 A3 NR902 C2
CN915 A1 Q901 C2
D901 C2 Q902 B2
D934 B3 Q982 A1
D935 B3 R904 C3
D950 C2 R905 D3
D951 C2 R906 D2
D957 C2 R907 D2
D958 B2 R920 C2
D959 B2 R926 C1
D960 A2 R932 C3
D961 A2 R934 B3
D970 A3 R940 B1
D980 B3 R947 A1
F901 D3 R948 A1
FB900 D2 R950 C2
FB901 D2 R952 C3
FB902 C2 R954 C2
FB903 D2 R957 C3
FB904 D2 R961 A1
FB905 D2 R969 A1
FB918 B3 R970 B1
FB919 B2 R977 A1
FB960 A2 R980 B1
FB961 A2 R983 A1
FB962 A2 R988 A1
FB963 A2 S900 C3
HBD901 D1 S901 D3
HD901 C2 S902 C2
HD960 A2 S903 D2
HIC970 A3 T901 B2
HQ901 C2 VAR901 C3
HQ982 A1 VAR902 C2
IC970 A3 ZD10 D1

Power Board Layout(Bottom Side)



8. Alignments

Index of this chapter:
8.1 Electrical Instructions
8.2 ISP Instructions
8.3 Serial Number Definition

Notes: You could adjust the LCD/TV following this chapter when the LCD/TV has the below defect.
1. Change panel. 2. Change or repair main board. 3. LCD/TV color is not right. 4. The settings are disabled.

8.1 Electrical Instructions

8.1.1 TV mode display adjustment

8.1.1.1 White balance adjustment (B)

General set-up:
Equipment Requirements: Color analyzer.

Input requirements:
Input Signal Type : RF signal
Set to PAL D/K system, frequency=184.25MHz (for China model) with white pattern of 100%

Input Signal Strength : 10mV (80 dBuV) terminal voltage.
Input Injection Point : TV Tuner input

Initial Set-up : Apply full white pattern, select smart setting to be PERSONAL (Brightness 50, Contrast 50, and Color 50). Adjusting SCALER GAIN R G B to reach W/D and luminance in factory mode as below.
Select Color Temp in the factory Mode OSD.
The 1931 CIE chromaticity (X, Y) co-ordinates shall be:

Alignment : Adjust the factory "CLR_TEMP_R / CLR_TEMP_G / CLR_TEMP_B"
To met NORMAL, COOL and WARM color temperature requiremet.
[Enter factory key 062596 by remoted number key]

Output Detection Points : Screen center.

Color Temp	x	y
Normal	0.291 ± 0.005	0.302 ± 0.005
Warm	0.314 ± 0.005	0.324 ± 0.005
Cool	0.273 ± 0.005	0.280 ± 0.005

If you have not CA-210, the following R,G and B values are for your reference.

Color Temp	R	G	B
Normal	122	122	122
Warm	124	124	120
Cool	120	120	124

8.1.2 PC Mode Adjustment

8.1.2.1 White balance adjustment (B)

General set-up :
Equipment Requirements: PC signal / Color analyzer.

Input requirements:
Input Signal Type : PC R/G/B analog TTL separate Sync signal.
Timing = 1024x768/60Hz.

Input Signal Strength : 700mV.
Input Injection Point : D-Sub

Initial setting : Set Brightness 100 and Contrast 50 and apply 1024X768 @60Hz mode with 50 Black and 50 White pattern at the factory mode

Adjustment : Activate AUTO-COLOR function for auto ADC offset and gain setup.
Color Temp alignment is automatically set during TV alignment.

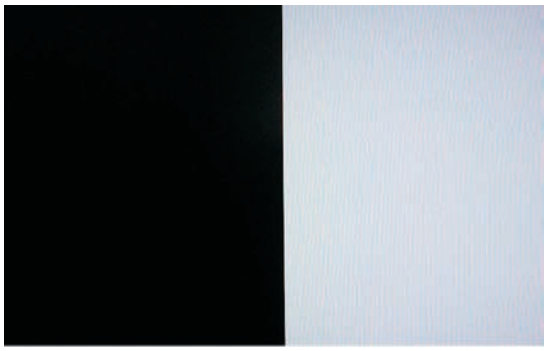


Figure 1:50-Black 50-White

Apply full white pattern , check picture must satisfy table 8.1.2.

Table 8.1.2:Reading in Minolta CA-210.

Color Temp	x	y
Normal	0.291 ± 0.005	0.302 ± 0.005
Warm	0.314 ± 0.005	0.324 ± 0.005
Cool	0.273 ± 0.005	0.280 ± 0.005

Luminance> 450 cd/m^2 in the center of the screen when both PC Brightness and Contrast control are 100%.

8.1.3 Comp video mode display adjustment

8.1.3.1 White balance adjustment (B)

General set-up:
Equipment : Quantum Data Pattern Generator 801GD or 802G or 802R;
Apply 576i, and the pattern STMPEbar shown in figure 2.

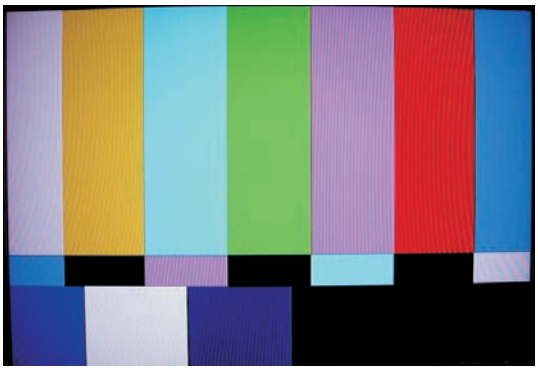


Figure 2. SMTPEbar

Alignment method:
Initial Set-up : Set Smart picture as □Personal□(Brightness=50, Contrast=50, Color=50);
Access to factory OSD first, then to enable AUTO-COLOR to get HD ADC OFFSET and HD ADC GAIN. Check 32 gray scales can be distinguishable.
Alignment : Color Temp alignment is automatically set during TV alignment

Table 8.1.3: Reading in Minolta CA-210.

Color Temp	x	y
Normal	0.291 ± 0.005	0.302 ± 0.005
Warm	0.314 ± 0.005	0.324 ± 0.005
Cool	0.273 ± 0.005	0.280 ± 0.005

If you have not CA-210,the following R, G and B values are for your reference.

Color Temp	R	G	B
Normal	122	122	122
Warm	124	124	120
Cool	120	120	124

8.2 Software Upgrading

8.2.1 ComPair

Introduction

ComPair (Computer Aided Repair) is a Service tool for Philips Consumer Electronics products. and offers the following:

1. ComPair features TV software upgrade possibilities.
2. ComPair helps you to quickly get an understanding on how to repair the chassis in a short and effective way (this feature is not supported in this chassis).
3. ComPair allows very detailed diagnostics and is therefore capable of accurately indicating problem areas. You do not have to know anything about I2C or UART commands yourself, because ComPair takes care of this this feature is not supported in this chassis).
4. ComPair speeds up the repair time since it can automatically communicate with the chassis (when the uP is working) and all repair information is directly available this feature is not supported in this chassis).

Specifications

ComPair consists of a Windows based fault finding program and an interface box between PC and the (defective) product. The (new) ComPair II interface box is connected **to the PC** via an USB cable. For the TV chassis, the ComPair interface box and the TV communicate via a bi-directional cable via the service connector(s).

How to Connect

This is described in the ComPair chassis fault finding database.

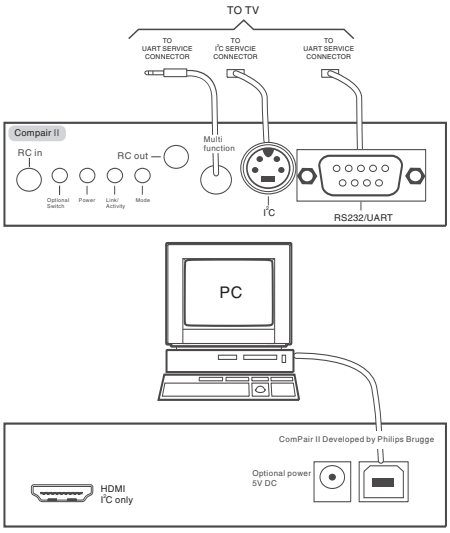


Figure 8-3 ComPair II interface connection

Caution: It is compulsory to connect the TV to the PC as shown in the picture above (with the ComPair interface in between), as the ComPair interface acts as a level shifter. If one connects the TV directly to the PC (via UART), ICs will be blown!

How to Order

ComPair II order codes:

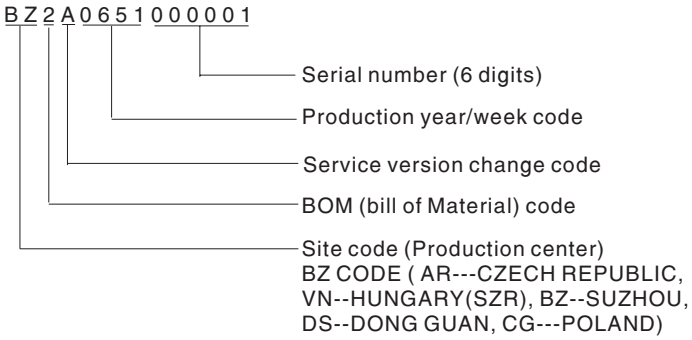
- ComPair II interface: 3122 785 91020.
- ComPair32 CD (update): 3122 785 60160.
- ComPair UART interface cable: 3122 785 90630.
  Important: The two outer pins of the white connector must be exchanged. This is explained in detail in ComPair.

Note: If you encounter any problems, contact your local support desk.

8.3 Serial Number Definition

BOM Code:

PANEL SUPPLIER	CODE
AU	1
CPT	2
LPL(LG)	3
QDI	4
CMO	5
HSD	6
SVA	7



9. Circuit Descriptions, Abbreviations List and IC Data Sheets

Index of this chapter
9.1 Circuit Descriptions
9.2 Abbreviations List
9.3 IC Data Sheets

9.1 Circuit Descriptions

9.1.1 General Description

This LCD-TV F3 AL2 platform supports PC analog input up to 1366X768 60Hz mode for WXGA panel. It supports ATV (RF) NTSC, PAL and SECAM. Besides that it supports YC, CVBS and also YPbPr signal input from SDTV to HDTV (480i/p, 576i/p, 720p, 1080i/p).

This F3 AL2 platform LCD - TV uses M-star MST96889 which has embedded ADC for HD/Analog D-sub input, digital port for DMI/DVI decoder digital data input, SD ADC for CVBS/YC input, video decoder, audio demodulator, audio decoder, TT decoder, Microcontroller, OSD engine and up / down scaler.

M-star MST96889 is a high performance and fully integrated IC for multi-function LCD TV/Monitor with resolutions up to SXGA/WXGA. It is a multi-standard TV video and audio decoder. MST96889 supports all NTSC/PAL/SECAM standards video decoder, Nicam/A2/FM stereo& SAP demodulation audio decoder, LVDS transmitter, and TV decoder.

The MST96889 enables consumer electronics manufactures to build high quality, feature-rich ATV.

MST96889 embeds the 3D motion de-interlace to generate very smooth picture quality for motion. 3D comb filter also recoveries high detail for still picture. The special color processing technology provides favorite and natural color for TV.

To enrich the features of ATV, MST96889 adds HDMI receiver to support digital signal in HDMI/DVI with HDCP function, integrated with high speed VGA ADC, high resolution Video/Audio ADC, 90dB Audio DAC and 10-bit Video DAC. It will provide very fine quality for TV.

9.1.2 MST96889 IC Function Description

9.1.2.1 MST96889

Host CPU

- Embedded 8032 micro controller
- Configurable PWM□s and GPIO□s
- Low spped ADC inputs for system control.
- SPI bus for external flash
- Supports exetermal MCU option controlled through 4-wire double-data-ratedirect MCU bus
- Build-in CPI analyzer

Transport De -multiplexer

- Integrated DVI/HDCP/HDMI receiver
- Integrated multi-standard TV video and audio decoder
- Integrated 8-bit MCU
- Integrated Ouput panel interface
- Integrated Video de-interlacer and Scaling

NTSC/PAL/SECAM Video Decoder

Supports NTSC M, NTSC-J, NTSC-4.43, PAL (B,D,G,H,M,N,I,Nc), and SECAM
- Automatic TV standard detection
- Motion adaptive 3-D comb filter for NTSC/PAL
- 8 configurable CVBS & Y/C S-video inputs
- Supports Teletext level-1.5, WSS, VPS, Closed-caption, and V-chip
- Macrovision detection
- CVBS video output

Multi-Standard TV Sound Decoder

- Supports BTSC/NICAM/A2/EIA-J demodulation and decoding
- FM stereo & SAP demodulation
- L/Rx4, mono, and SIF audio input
- L/R loudspeaker and line outputs -
- Supports sub-woofer output
- Built-in audio output DACs
- Audio processing for loudspeaker channel, including volume, balance, mute, tone, EQ, and virtual stereo/surround

Digital Audio Interface

- I2S digital audio input & output
- S/PDIF digital audio input & output
- HDMI audio channel processing capability
- Programmable delay for audio/video synchronization

OSD Plane

- 16/256-color palette
- 256/512 1-bit/pixel font
- 128/256 4-bit/pixel font
- Supports texture function
- Supports 4K attribute/code
- Horizontal and vertical stretch of OSD menus
- Pattern generator for production test
- Supports OSD MUX and alpha blending
- Capability
- Supports blinking and scrolling for closed
- Caption applications

Video Plane

- 3-D motion adaptive video deinterlacer
- Edge-oriented adaptive algorithm for smooth low-angle edges
- Automatic 3:2 pull-down & 2:2 pull-down detection recovery
- MStar 3rd Generation Advanced Color Engine (MStarACE-3) gives:
    - Brilliant and fresh color
    - Intensified contrast and details
    - Vivid skin tone
    - Sharp edge
    - Enhanced depth of field perception
    - Accurate and independent color control
    - sRGB compliance allows end-user to experience the same colors as viewed on CRTs and other displays
    - .Programmable 12-bit RGB gamma CLUT
    - 3-D video noise reduction
    - Frame rate conversion
    - Three analog ports support up to 150MHz
    - Supports PC RGB input up to SXGA@75Hz
    - Fast blanking and function selection switch support full SCART functions
    - Supports HDTV RGB/YPbPr/YCbCr up to 1080P
- Supports Composite Sync and SOG port
- Automatic color calibration

TV Encoder

4 DAC to support VGA or SVM/R/G/B

LVDS

8-bit LVDS/TTL Panel Interface
- Supports dual link LVDS up to SXGA@75Hz
- Supports 8-bit single TTL panel
- Supports 2 data output formats: Thine & TI data mappings
- Compatible with TIA/EIA
- With 6/8 bits options
- Reduced swing for LVDS for low EMI
- Supports flexible spread spectrum frequency with 360Hz~11.8MHz and up to 25% modulation

CVBS In

- On chip 54MHZ 10 bit video ADC
- Support PAL (B,G,D,H,M,N,I,Nc) , NTSC, NTSC-4.43 , SECAM
- Macrovision detection
- NTSC / PAL support 3D Motion Adaptive comb filter and SECAM support 2D comb filter
- Motion Adaptive 3D Noise Reduction built in
- VBI data slicer for CC/TT decoding
- Supporting 4 CVBS, 2 S-video

VGA In

- Support VGA input up to UXGA 150Hz
- Support full VESA standards

Component Video In

- Support two-component video input
- Support 480i / 480p / 576i / 576p /720p /1080i

Digital Video In I/F

- One 16 bit digital video in I/F

Audio line In I/F

- 1 bit (Two channel)

HDMI Receiver

- HDMI 1.1
- DVI 1.0
- EIA/CEA-861B
- HDCP 1.1

Audio DAC

- On chip 4 audio DAC support R/L channel and subwoofer output

DRAM Controller

- 16-bit data bus for external frame buffer (SDR or DDR DRAM)
- All system clocks synthesized from a single external clock

9.2 Abbreviations List

CSM	Customer Service Mode
ATSC	Advanced Television Systems Committee, the digital TV standard in the USA
DVD	Digital Versatile Disc
EEPROM	Electrically Erasable and Programmable Read Only Memory
3DNR	Temporal (3D) Noise Reduction
AGC	Automatic Gain Control: algorithm that controls the video input of the feature box
FM	Field Memory or Frequency Modulation
AM	Amplitude Modulation
AP	Asia Pacific
ASF	Auto Screen Fit: algorithm that adapts aspect ratio to remove horizontal black bars without discarding video information
ATV	See Auto TV
Auto TV	A hardware and software control system that measures picture content, and adapts image parameters in a dynamic way
AV	External Audio Video
AVIP	Audio Video Input Processor
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz
ComPair	Computer aided rePair
CP	Connected Planet / Copy Protection
CSS	Content Scrambling System; An encryption method for MPEG-2 video on DVDs. The algorithm and keys required to decode the disc are stored on the DVD-player
CVBS	Composite Video Blanking and Synchronization
DFU	Directions For Use: owner's manual
DNR	Digital Noise Reduction: noise reduction feature of the set
DSP	Digital Signal Processing
DST	Dealer Service Tool: special remote control designed for service technicians
DTCP	Digital Transmission Content Protection; A protocol for protecting digital audio/video content that is traversing a high speed serial bus, such as IEEE-1394
DVI(-d)	Digital Visual Interface (d= digital only)
EAS	Emergency Alert Signalling; A cable TV standard (SCTE18) to signal emergency information to digital terminal devices
E-DDC	Enhanced Display Data Channel (VESA standard for communication channel and display). Using E-DDC, the video source can read the EDID information form the display.
EDID	Extended Display Identification Data (VESA standard)
EMI	Electro Magnetic Interference
EMM	Entitlement Management Message
EPLD	Erasable Programmable Logic Device
EU	Europe
FBL	Fast BLanking: DC signal accompanying RGB signals
FDS	Full Dual Screen (same as FDW)
FDW	Full Dual Window (same as FDS)
FLASH	FLASH memory
FTV	Flat TeleVision
H	H_sync to the module
HD	High Definition
HDD	Hard Disk Drive

NTSC	National Television Standard Committee. Color system mainly used in North America and Japan. Color carrier NTSC M/N= 3.579545 MHz, NTSC 4.43= 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)
NVM	Non-Volatile Memory: IC containing TV related data such as alignments
OSD	On Screen Display
PLL	Phase Locked Loop. Used for e.g.
LVDS	Low Voltage Differential Signalling
PAL	Phase Alternating Line. Color system mainly used in West Europe (color carrier= 4.433619 MHz) and South America (color carrier PAL M= 3.575612 MHz and PAL N= 3.582056MHz)
PCB	Printed Circuit Board (same as PWB)
PCM	Pulse Code Modulation
PWB	Printed Wiring Board (same as "PCB")
PWM	Pulse Width Modulation
QAM	Quadrature Amplitude Modulation;modulation method
RAM	Random Access Memory
RGB	Red, Green, and Blue. The primary color signals for TV. By mixing levels of R, G, and B, all colors (Y/C) are reproduced.
RC	Remote Control RC5 / RC6 Signal protocol from the remote control receiver
RESET	RESET signal
ROM	Read Only Memory
SAM	Service Alignment Mode
SCART	Syndicat des Constructeurs d'Appareils Radiorecepteurs et Televisieurs
SCL	Serial Clock I2C
SCL-F	CLock Signal on Fast I2C bus
SD	Standard Definition
SDA	Serial Data I2C
SDA-F	DAta Signal on Fast I2C bus
SDI	Serial Digital Interface, see ITU-656
SDRAM	Synchronous DRAM
SECAM	SEequence Couleur Avec Memoire. Color system mainly used in France and East Europe. Color carriers= 4.406250 MHz and 4.250000 MHz
SIF	Sound Intermediate Frequency
SMPS	Switched Mode Power Supply
SOG	Sync On Green
SOPS	Self Oscillating Power Supply
I2C	Integrated IC bus
I2D	Integrated IC Data bus
I2S	Integrated IC Sound bus
IB	In Band channel
IF	Intermediate Frequency
Interlaced	Scan mode where two fields are used to form one frame. Each field contains half the number of the total amount of lines. The fields are written in "pairs", causing line flicker.
IR	Infra Red
IRQ	Interrupt Request
LATAM	Latin America
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LPL	LG.Philips LCD (supplier)
MUTE	MUTE Line

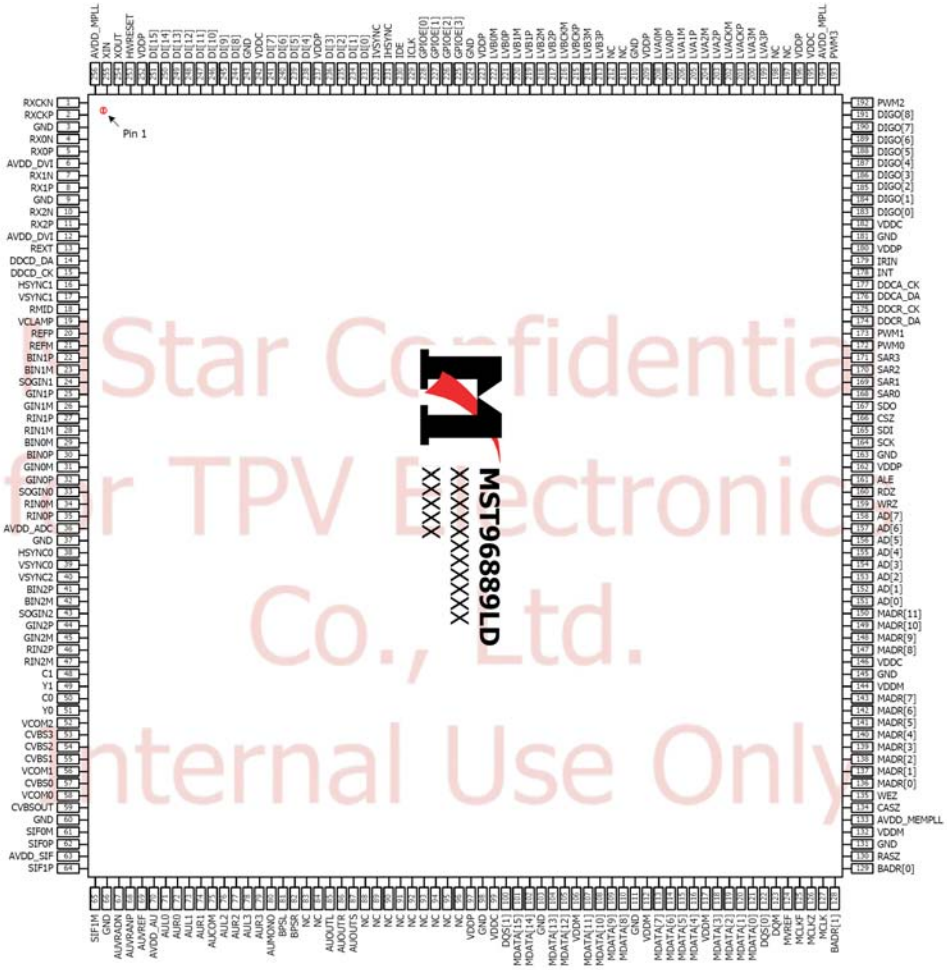
TFT	Thin Film Transistor
SRAM	Static RAM
STBY	STandBY
SOG	Sync On Green
SVGA	800x600 (4:3)
SVHS	Super Video Home System
SW	Software
SWAN	Spatial temporal Weighted Averaging Noise reduction
SXGA	1280x1024
TMDS	Transmission Minimized Differential Signalling
UXGA	1600x1200 (4:3)
V	V-sync to the module
VCR	Video Cassette Recorder
VESA	Video Electronics Standards Association
VGA	640x480 (4:3)
VL	Variable Level out: processed audio output toward external amplifier
VSB	Vestigial Side Band; modulation method
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
WXGA	1280x768 (15:9)
XGA	1024x768 (4:3)
Y	Luminance signal
YPbPr	Component video. Luminance and scaled color difference signals (B-Y and R-Y)

9.3 IC Data Sheets

This section shows the internal block diagrams and pin configurations of ICs that are drawn as "black boxes" in the electrical diagrams (with the exception of "memory" and "logic" ICs).

9.3.1 IC Data Sheets-MST96889L(U4101)

Pin Configuration



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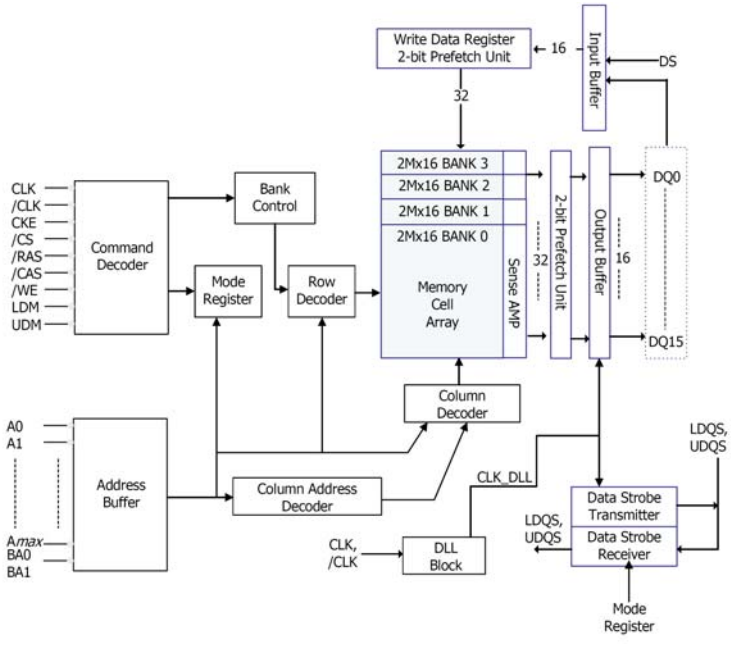
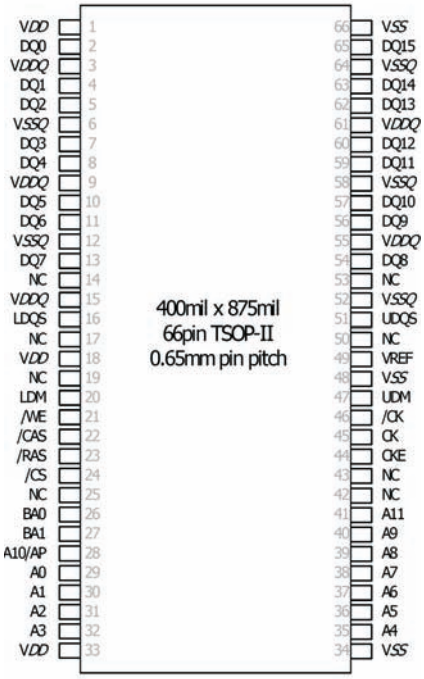
9.3.2 IC Data Sheets-HY5DU281622FTP (U4201)

Typical Application Circuit

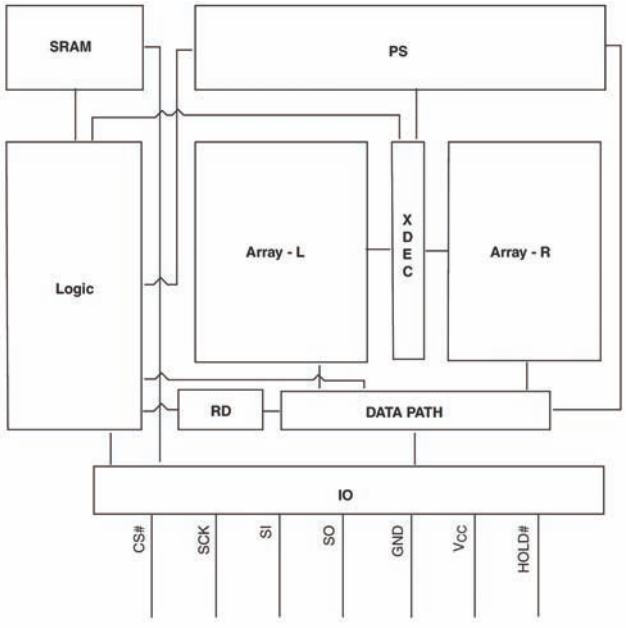


Functional Block Diagram

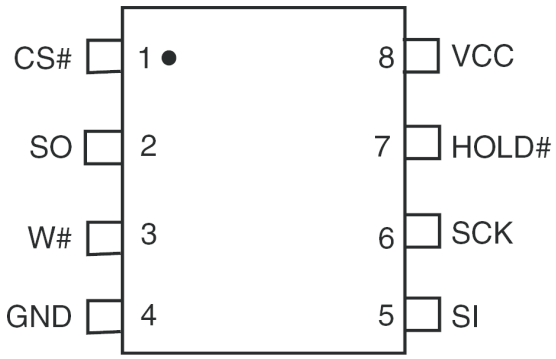


9.3.3 IC Data Sheets-S25FL004A for 93 (U4202)

Block Diagram

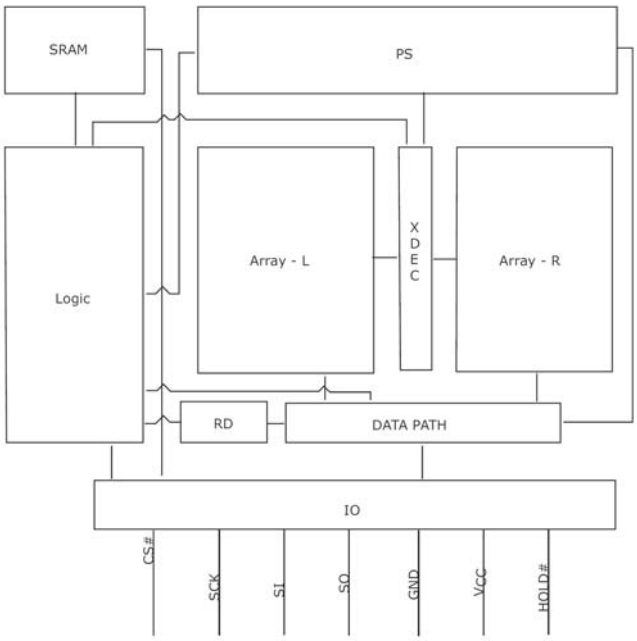


Pin Configuration

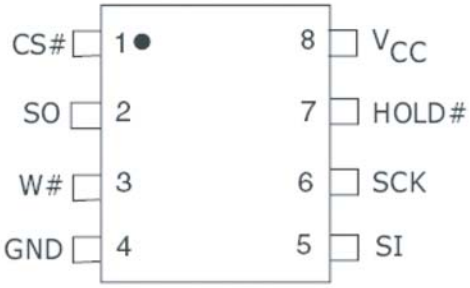


IC Data Sheets-S25FL008A for 98/79 (U4202)

Block Diagram

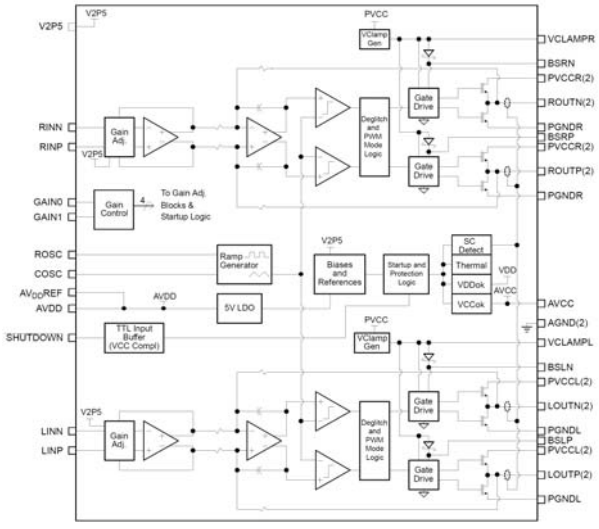


Pin Configuration

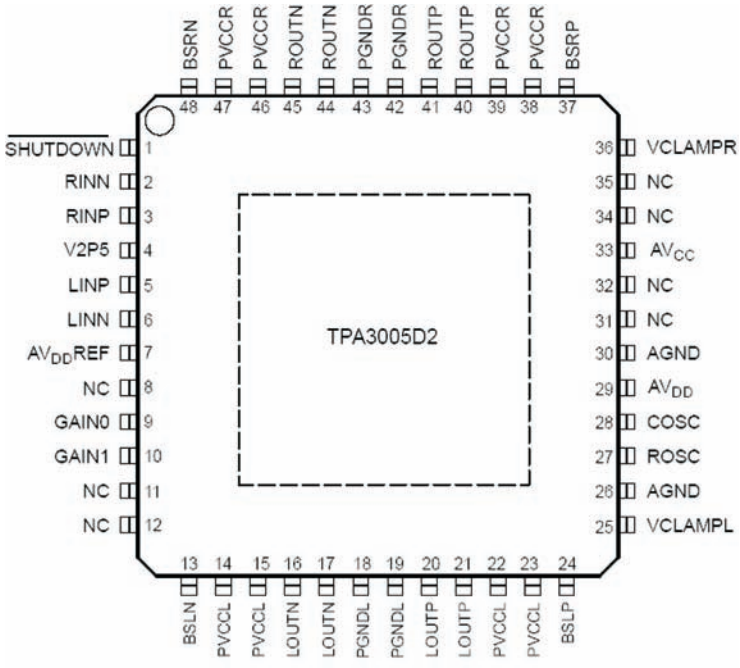


9.3.4 IC Data Sheets-TPA3005D2 (U6301)

Functional Block Diagram

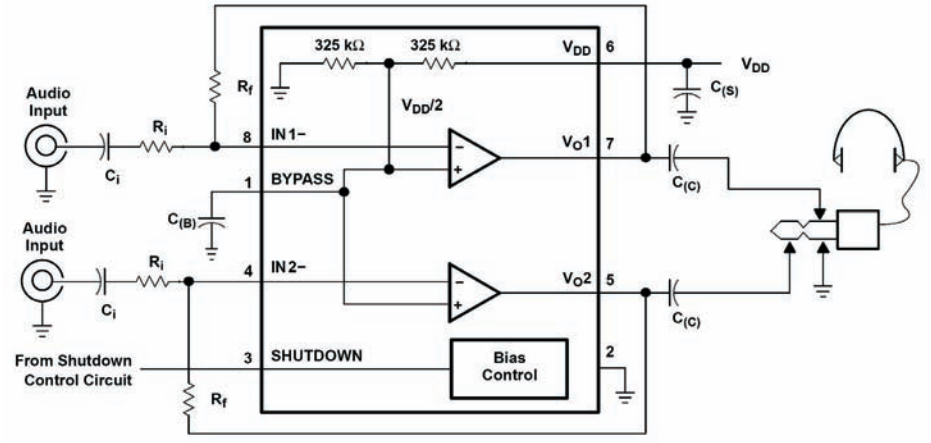


Pin Configuration



9.3.5 IC Data Sheets-TPA6110A2DGNRG4 (U6303)

Typical Application Circuit



10.Recommended/Spare Parts List

Index of this chapter
10.1 Recommended Parts List
10.2 Spare Parts List

10.1 Recommended Parts List

Item	Philips 12NC	Description	Code no
30	996510002560	FRONT BEZEL ASSY	705TP734033
40	996510009798	REAR COVER ASSY	705TP734060
50	996500043791	BASE	P37T0053 1ABS
8803	996510010310	HARNESS30P-15 250mmCJT20A0099	095T801830CA49
8803	996510004956	HARNESS 30P-15*2P 250mm 46491	095T8018 30949 FP
IC920	996500043861	IC UCC28051D SOIC-8	056T379902
IC950	996500043860	IC FA5541N SOP8	056T 379900
IC970	996500043859	IC LA5779L-HK TO-220	056T563939
IC990	996500040055	PC123 Y82FZ0F	056G1393B
IC990	996500040056	TCET1103G	056G1395A
IC990	996500036055	PC123Y22FZOF	056G1393A
IC991	996500040056	TCET1103G	056G1395A
IC991	996500036055	PC123Y22FZOF	056G1393A
IC991	996500040055	PC123 Y82FZ0F	056G1393B
IC995	996510002780	IC AZ431AZ-AE1 TO-92 BY AAC	056G 158 10 T
IC995	996500043819	IC TL431CZ-AP TO92	056G158900
U1101	996500042647	IC AT24C02BN-10SU-1.8 SO8	056T1133907
U1101	996500035965	M24C02-WMN6TP	056G113334
U4101	996500044268	IC MST96889LD-LF LQFP-256	056T 562911
U4106	996500044270	IC AP1702EWL SOT23	056T 643903
U4201	996500044271	HY5DU281622ETP-5 TSOPII-66	056G 615 51 1
U4201	996510004673	IC HY5DU281622FTP-5-C TSOPII66	056T 615902
U5101	996500042642	CM2021-00TR TSSOP-38	056T 662 3
U5101	996500042643	IC IP4776CZ38	056T 662900
U5102	996500035965	M24C02-WMN6TP	056G113334
U6201	996510003489	IC 74HC4052D PHILIPS	056T 614 1
U6301	996500044273	IC TPA3005D2PHP PQFP48	056G616901
U6303	996500042394	TPA6110A2DGBRG4 MSOP-8(DGN)	056G6168
U7101	996500044274	IC AIC1596-12PM5	056T563932
U7102	996500044275	IC AIC1596-33PM5 TO263-5	056T563927
U7104	996500044276	IC AME8815AEGT330Z SOT-223	056G 563903
U7105	996500044277	IC AIC1596-50PM5 TO263-5	056T563926
U7106	996500044278	IC AME8815AEGT180Z SOT-223	056G563902
U7107	996500044279	AME8815BEGT250Z SOT-223BY AME	056G 563 44
U7108	996500044277	IC AIC1596-50PM5 TO263-5	056T563926

10.2 Spare Parts List

Model:32TA2800/55(CMO)

Item	Philips 12NC	Description	Code no
Mechanical Parts			
30	996510002560	FRONT BEZEL ASSY	705TP734033
40	996510009798	REAR COVER ASSY	705TP734060
50	996500043791	BASE	P37T0053 1ABS
1185	996510009573	SPEAKER 8 OHM 5W 99x52mm	078T 486A01 ZM
1185	996510002813	SPEAKER 8 OHM 5W 91x51mm (FS-	078T 486900 Z
1186	996510009573	SPEAKER 8 OHM 5W 99x52mm	078T 486A01 ZM
1186	996510002813	SPEAKER 8 OHM 5W 91x51mm (FS-	078T 486900 Z
350	996510009797	MAIN FRAME ASSY	705TZ715023
1174	996510010302	PAL MALE TO F FEMALE	088T 303A00 TN
Accessory			
1172	996500044230	POWER CORD S930123-2	089G412A18NIS1
1172	996500044524	MAINSCORD AUS/NZ 7A5 1M8 BK	089G412A18NLS1
1173	996500042361	MAINSCORD UL 10A 1M8 DET BK	089G402A18NIS5
1173	996500041575	MAINSCORD	089G402A18NLS2
1176	996500045165	REMOTE CONTROL RC2023611/01B	098TRABD4BTPHR
Miscellanea			
8351	996510004959	HARNESS 3P-3P 280mm 46492	095T8014 3925 FP
8351	996510010305	HARNESS 3P-3P 280mm CJT20A0095	095T8014 3CA25
8352	996510010306	HARNESS 7P-7P 660mm CJT20A0132	095T8014 7CA32
8352	996510004657	HARNESS 7P-7P 660mm 46480	095T8014 7932 FP
8353	996510004960	HARNESS 10P-10P 240mm 46494	095T8014 10933 FP
8353	996510010307	HARNESS10P-10P 240mmCJT20A0098	095T801410CA33
8354	996510010308	HARNESS11P-11P 100mmCJT20A0086	095T801411CA30
8354	996510004659	HARNESS 11P-11P 100mm 46490	095T8014 11930 FP
8802	996510004655	HARNESS 2P 640mm 46489	095T8013 2967 FP
8802	996510010304	HARNESS 2P 640mm CJT20A0090	095T8013 2CA67
8803	996510010310	HARNESS30P-15 250mmCJT20A0099	095T801830CA49
8803	996510004956	HARNESS 30P-15*2P 250mm 46491	095T8018 30949 FP
8804	996510004653	HARNESS 130mm 75034	095T 900933 FP
8804	996510010303	HARNESS 130mm CJT20A0094	095T 900 CA33
8805	996510010309	HARNESS12P-14P 260mmCJT20A0096	095T801414CA41
8805	996510004966	HARNESS 12P-14P 260mm 46493	095T8014 14941 FP
LCD Panel			
1050	996510005587	LCD Panel V315B1-L06 CMO	750TVMM5B1611N
PCB Assy			
1053	996510010312	SCALER PCB ASSY	CBPF6T2SZA1
1054	996510004965	POWER PCB ASSY	ADPF24160R4P
1055	996510004964	SIDE AV PCB ASSY	PTPF7PA8
1056	996500044235	IR PCB ASSY	IRPF7PA4
1057	996500044236	KEY BOARD ASSY	KEPF7PA4
PCB Assy			
1053	996510010312	SCALER PCB ASSY	CBPF6T2SZA1
Various			
1256	996510010314	EEPROM ASSY	705TZ756179
1257	996510010313	SPI FLASH ASSY	705TZ756178
CN1101	996510002457	D-SUB 15PIN	088T353A15F H
CN1101	996510004337	D-SUB 15PIN F 900-261521-02-A	088G353A15F LS
CN1101	996510002458	D-SUB 15PIN	088T353A15FHJ
CN5101	996510002523	SOC HDMI H 19P SM FLANGE	088T 340 19TNP
CN6103	996500044255	PHONE JACK 3.5mm 5P GREEN	088G 302902 FP
TU2101	996510004062	TUNER FQ1216PN/I H-5 PHILIPS	094TNPALALLP1
X4101	996500044280	CRYSTAL 14M318 18P HC49/S	093G22S903C
X4101	996500044281	CRYSTAL 14M318 18P SMD-49	093G 22S 53 A
⊣⊢			
C1101	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C1102	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C1103	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C1104	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C1108	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C1109	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C1110	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C1111	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C1112	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C1113	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C1114	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C1115	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2101	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C2102	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2105	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C2106	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C2107	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C2110	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C2111	996500042607	EC CAP 1000UF M 16V	067G305V102 3
C2202	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2203	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2207	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2208	996500043977	CAP CHIP 0603 1N 25V NPO /-5%	065G060310221J
C2211	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2212	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2213	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2214	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2215	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2216	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2217	996500043977	CAP CHIP 0603 1N 25V NPO /-5%	065G060310221J
C2224	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2225	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2226	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2227	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2230	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2234	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2303	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2306	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C2309	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C4101	996500042233	CER2 1206 Y5V 10V 10U P8020 R	065G1206106A7Z
C4103	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4104	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4105	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4106	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C4107	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C4108	996510004333	EC 10uF 50V KM 5x11mm	067G305V1007
C4109	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4110	996500042400	CAP CHIP 0603 1U 10V Y5V -20%	065G0603105A7Z
C4111	996500042699	4.7U/25V X7R	065G120647522
C4112	996500042233	CER2 1206 Y5V 10V 10U P8020 R	065G1206106A7Z
C4113	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4114	996500042233	CER2 1206 Y5V 10V 10U P8020 R	065G1206106A7Z
C4115	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4116	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4117	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4118	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4119	996500042233	CER2 1206 Y5V 10V 10U P8020 R	065G1206106A7Z
C4120	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4121	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4122	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4123	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4124	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4125	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4126	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4127	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4128	996500042233	CER2 1206 Y5V 10V 10U P8020 R	065G1206106A7Z
C4129	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4130	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4131	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4132	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4133	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4134	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C4135	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C4136	996500042232	CAP CHIP 0603 47N 16V X7R	065G060347312K
C4137	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4138	996500042233	CER2 1206 Y5V 10V 10U P8020 R	065G1206106A7Z
C4139	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4140	996500042233	CER2 1206 Y5V 10V 10U P8020 R	065G1206106A7Z
C4141	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4143	996500042233	CER2 1206 Y5V 10V 10U P8020 R	065G1206106A7Z
C4144	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4145	996500042233	CER2 1206 Y5V 10V 10U P8020 R	065G1206106A7Z
C4146	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4147	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4148	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4149	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4150	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4151	996500043979	CAP CHIP 0603 1N 50V NPO /-5%	065G060310231J
C4152	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4153	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4201	996500042233	CER2 1206 Y5V 10V 10U P8020 R	065G1206106A7Z
C4202	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4203	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4204	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4205	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4206	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4207	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4208	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4209	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4210	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4211	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C4212	996500043979	CAP CHIP 0603 1N 50V NPO /-5%	065G060310231J
C5101	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C5102	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C5105	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C6101	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C6102	996500043886	CHIP 2.2UF 16V Y5V	065G080522517
C6103	996500043889	CAP CHIP 0805 560P 50V NPO	065G080556131J
C6104	996500043886	CHIP 2.2UF 16V Y5V	065G080522517
C6105	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C6106	996500043889	CAP CHIP 0805 560P 50V NPO	065G080556131J
C6107	996500043886	CHIP 2.2UF 16V Y5V	065G080522517
C6108	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C6109	996500043889	CAP CHIP 0805 560P 50V NPO	065G080556131J
C6110	996500043886	CHIP 2.2UF 16V Y5V	065G080522517
C6111	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C6112	996500043889	CAP CHIP 0805 560P 50V NPO	065G080556131J

C6113	996500043886	CHIP 2.2UF 16V Y5V	065G080522517
C6114	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C6115	996500043889	CAP CHIP 0805 560P 50V NPO	065G080556131J
C6116	996500043886	CHIP 2.2UF 16V Y5V	065G080522517
C6117	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C6118	996500043889	CAP CHIP 0805 560P 50V NPO	065G080556131J
C6201	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C6202	996500042233	CER2 1206 Y5V 10V 10U P8020 R	065G1206106A7Z
C6203	996500043889	CAP CHIP 0805 560P 50V NPO	065G080556131J
C6204	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C6205	996500043889	CAP CHIP 0805 560P 50V NPO	065G080556131J
C6206	996500044243	CAP 4.7UF 10V Y5V -20%~ 80%	065G0805475A7Z
C6207	996500044243	CAP 4.7UF 10V Y5V -20%~ 80%	065G0805475A7Z
C6208	996500044243	CAP 4.7UF 10V Y5V -20%~ 80%	065G0805475A7Z
C6209	996500044243	CAP 4.7UF 10V Y5V -20%~ 80%	065G0805475A7Z
C6210	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C6211	996500043889	CAP CHIP 0805 560P 50V NPO	065G080556131J
C6212	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C6213	996500043889	CAP CHIP 0805 560P 50V NPO	065G080556131J
C6215	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C6216	996500043886	CHIP 2.2UF 16V Y5V	065G080522517
C6217	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C6218	996500043886	CHIP 2.2UF 16V Y5V	065G080522517
C6219	996500042229	CAP CHIP 0603 22P 50V NPO	065G060322031J
C6301	996500042264	CAP CHIP 0805 1U 16V X7R	065G080510512K
C6301	996500036072	1UF -10% 6V X7R	065G0805105 12
C6302	996500044244	CAP 0.47uF 50V X7R /- 10%	065G120647432
C6306	996500043488	CAP 0603 100N 25V X7R /-10	065G060310422K
C6307	996500043488	CAP 0603 100N 25V X7R /-10	065G060310422K
C6308	996500043407	CAP 0805 100N 50V X7R /-10	065G080510432K
C6309	996500042605	EC 470uF 25V EB 10x13mm	067G215R4714K
C6309	996500042604	EC 470uF 25V LZ 10x12.5mm	067G215R4714C
C6310	996500042605	EC 470uF 25V EB 10x13mm	067G215R4714K
C6310	996500042604	EC 470uF 25V LZ 10x12.5mm	067G215R4714C
C6312	996500042259	CAP CHIP 0603 100P 50V NPO	065G060310131J
C6313	996500042259	CAP CHIP 0603 100P 50V NPO	065G060310131J
C6315	996500042403	CER 1210 10U 25V Y5V -20% 80%	065G121010627Z
C6316	996500042403	CER 1210 10U 25V Y5V -20% 80%	065G121010627Z
C6319	996500043488	CAP 0603 100N 25V X7R /-10	065G060310422K
C6320	996500043488	CAP 0603 100N 25V X7R /-10	065G060310422K
C6321	996500044245	CAP 0805 220N 25V Y5V -20%	065G080522427Z
C6322	996500044245	CAP 0805 220N 25V Y5V -20%	065G080522427Z
C6323	996500042400	CAP CHIP 0603 1U 10V Y5V -20%	065G0603105A7Z
C6324	996500042696	CAP 0805 1U 25V X7R /-10%	065G080510522K
C6325	996500042400	CAP CHIP 0603 1U 10V Y5V -20%	065G0603105A7Z
C6326	996500042400	CAP CHIP 0603 1U 10V Y5V -20%	065G0603105A7Z
C6327	996500042400	CAP CHIP 0603 1U 10V Y5V -20%	065G0603105A7Z
C6328	996500042400	CAP CHIP 0603 1U 10V Y5V -20%	065G0603105A7Z
C6329	996500042403	CER 1210 10U 25V Y5V -20% 80%	065G121010627Z
C6330	996500043488	CAP 0603 100N 25V X7R /-10	065G060310422K
C6331	996500043488	CAP 0603 100N 25V X7R /-10	065G060310422K
C6332	996500044246	CAP 0805 220P 50V NPO /-5%	065G080522131J
C6333	996500042696	CAP 0805 1U 25V X7R /-10%	065G080510522K
C6334	996500044245	CAP 0805 220N 25V Y5V -20%	065G080522427Z
C6335	996500044245	CAP 0805 220N 25V Y5V -20%	065G080522427Z
C6336	996500043488	CAP 0603 100N 25V X7R /-10	065G060310422K
C6337	996500043488	CAP 0603 100N 25V X7R /-10	065G060310422K
C6338	996500042400	CAP CHIP 0603 1U 10V Y5V -20%	065G0603105A7Z
C6339	996500043407	CAP 0805 100N 50V X7R /-10	065G080510432K
C6340	996510009799	EC 220uF 16V EB 8x7mm	067G215H221 3K
C6340	996510009800	EC 220uF 16V SY 8x7mm	067G215H221 3C
C6341	996500042403	CER 1210 10U 25V Y5V -20% 80%	065G121010627Z
C6342	996500042403	CER 1210 10U 25V Y5V -20% 80%	065G121010627Z
C6343	996500042263	MLCC 0603 CAP 0.47UF Z 10V Y5V	065G0603474A7Z
C6344	996500042245	ELCAP SK 10V S 330U PM20 B	067G305M331 2C
C6344	996500042246	ELCAP SS-H 10V S 330U PM20 B	067G305M331 2K
C6344	996500042247	EC 330uF 10V SJ 8x7mm	067G305M331 2L
C6345	996500042259	CAP CHIP 0603 100P 50V NPO	065G060310131J
C6346	996500042259	CAP CHIP 0603 100P 50V NPO	065G060310131J
C6347	996500042400	CAP CHIP 0603 1U 10V Y5V -20%	065G0603105A7Z
C6348	996500042246	ELCAP SS-H 10V S 330U PM20 B	067G305M331 2K
C6348	996500042247	EC 330uF 10V SJ 8x7mm	067G305M331 2L
C6348	996500042245	ELCAP SK 10V S 330U PM20 B	067G305M331 2C
C6349	996500043488	CAP 0603 100N 25V X7R /-10	065G060310422K
C6350	996500043488	CAP 0603 100N 25V X7R /-10	065G060310422K
C6351	996500044244	CAP 0.47uF 50V X7R /- 10%	065G120647432
C6352	996500042260	CAP CHIP 0603 10N 50V X7R	065G060310332K
C6353	996500042260	CAP CHIP 0603 10N 50V X7R	065G060310332K
C6354	996500042260	CAP CHIP 0603 10N 50V X7R	065G060310332K
C6355	996500042260	CAP CHIP 0603 10N 50V X7R	065G060310332K
C7101	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7102	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7103	996500042604	EC 470uF 25V LZ 10x12.5mm	067G215R4714C
C7103	996500042605	EC 470uF 25V EB 10x13mm	067G215R4714K
C7104	996500042605	EC 470uF 25V EB 10x13mm	067G215R4714K
C7104	996500042604	EC 470uF 25V LZ 10x12.5mm	067G215R4714C
C7109	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7112	996510004333	EC 10uF 50V KM 5x11mm	067G305V1007
C7113	996510004335	EC 100uF 10V SS-H 5x7mm	067G305M101 2K
C7113	996500044247	EC 100uF 10V SK 5x7mm	067G305M101 2C
C7114	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7115	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7116	996500042604	EC 470uF 25V LZ 10x12.5mm	067G215R4714C
C7116	996500042605	EC 470uF 25V EB 10x13mm	067G215R4714K
C7118	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7119	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7120	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7121	996510004333	EC 10uF 50V KM 5x11mm	067G305V1007
C7122	996510004335	EC 100uF 10V SS-H 5x7mm	067G305M101 2K
C7122	996500044247	EC 100uF 10V SK 5x7mm	067G305M101 2C
C7123	996510004333	EC 10uF 50V KM 5x11mm	067G305V1007
C7124	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7125	996500044247	EC 100uF 10V SK 5x7mm	067G305M101 2C
C7125	996510004335	EC 100uF 10V SS-H 5x7mm	067G305M101 2K
C7126	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7127	996500042605	EC 470uF 25V EB 10x13mm	067G215R4714K
C7130	996500044249	CAPCHIP 0603 330N 16V Y5V -20%	065G060333417Z
C7131	996510004333	EC 10uF 50V KM 5x11mm	067G305V1007
C7132	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7137	996500044249	CAPCHIP 0603 330N 16V Y5V -20%	065G060333417Z
C7138	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7204	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7205	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7206	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7207	996500043914	EC 470uF 35V RGA 10x16mm	067G3054716E
C7207	996500043913	EC 470uF 35V KM 10x16mm	067G3054716C
C7208	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7209	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7210	996510004332	EC 100uF 25V RGA 8x11.5mm	067G305V1014L
C7301	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7302	996500042262	CAP CHIP 0603 100N 50V Y5V	065G060310437Z
C7303	996500042230	CAP CHIP 0603 33P 50V NPO	065G060333031J
C7304	996500042230	CAP CHIP 0603 33P 50V NPO	065G060333031J

R1101	996500042225	RST CHIPR 4.7KOHM -5% 1/10W	061G0603472
R1102	996500042225	RST CHIPR 4.7KOHM -5% 1/10W	061G0603472
R1103	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R1104	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R1105	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R1106	996500042220	RST CHIPR 22 KOHM -5% 1/10W	061G0603223
R1110	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R1111	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R1114	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R1115	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R1116	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R1117	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R1118	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R1119	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R1121	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R1122	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R1123	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R1124	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R1125	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R1126	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R1127	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R1128	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R1129	996500042219	RST CHIPR 2.2 KOHM -5% 1/10W	061G0603222
R1130	996500042219	RST CHIPR 2.2 KOHM -5% 1/10W	061G0603222
R1131	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R2101	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R2102	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R2103	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R2104	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R2105	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R2106	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R2109	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R2113	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R2114	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R2201	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R2202	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2203	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2204	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2205	996500042224	RST CHIPR 470 OHM -5% 1/10W	061G0603471
R2206	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R2207	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R2208	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2209	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2210	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2211	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2212	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2213	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2214	996500042224	RST CHIPR 470 OHM -5% 1/10W	061G0603471
R2215	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R2216	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R2217	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R2218	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2219	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2220	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2221	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2222	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R2223	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2224	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R2226	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2227	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R2301	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R2302	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R2303	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R2304	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R2305	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F

R2306	996500042227	RST CHIPR 75 OHM -1% 1/10W	061G06037509F
R2307	996500044262	RST CHIP 47R 1/10W 1%	061G06034709F
R4102	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R4104	996500042216	RST CHIPR 1 MOHM -5% 1/10W	061G0603105
R4105	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4106	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R4107	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4108	996500044263	RST CHIP 390R 1/10W 1%	061G06033900F
R4109	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4110	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4112	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4113	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4114	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4115	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4117	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R4119	996500042656	RST CHIPR 10 OHM -5% 1/10W	061G0603100
R4120	996500042656	RST CHIPR 10 OHM -5% 1/10W	061G0603100
R4121	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4122	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4123	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4124	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4125	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4126	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4127	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4128	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4129	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4130	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4131	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4132	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4133	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4134	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4135	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4136	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4137	996500042225	RST CHIPR 4.7KOHM -5% 1/10W	061G0603472
R4138	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4143	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4144	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4145	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R4146	996500042397	RST CHIPR 15KOHM -5% 1/10W	061G0603153
R4147	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4148	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4149	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4150	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4151	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4152	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4153	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4154	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4155	996500042217	RST CHIPR 22 OHM -5% 1/10W	061G0603220
R4156	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4157	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4158	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4159	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4161	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4162	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4163	996500042217	RST CHIPR 22 OHM -5% 1/10W	061G0603220
R4165	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4166	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4167	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R4168	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4169	996500040053	RST CHIP 1K 1/10W 5%	061G0603102
R4170	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4171	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4172	996500040053	RST CHIP 1K 1/10W 5%	061G0603102
R4173	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4174	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R4175	996500043487	RST CHIPR 3.3 KOHM -5% 1/10W	061G0603332
R4176	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4177	996500040053	RST CHIP 1K 1/10W 5%	061G0603102
R4178	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4180	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4182	996500043487	RST CHIPR 3.3 KOHM -5% 1/10W	061G0603332
R4183	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4184	996500042225	RST CHIPR 4.7KOHM -5% 1/10W	061G0603472
R4185	996500042215	RST CHIPR 100 KOHM -5% 1/10W	061G0603104
R4186	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R4201	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R4203	996500040053	RST CHIP 1K 1/10W 5%	061G0603102
R4204	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R4205	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R4206	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R4207	996500040053	RST CHIP 1K 1/10W 5%	061G0603102
R4208	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R4210	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R4211	996500042217	RST CHIPR 22 OHM -5% 1/10W	061G0603220
R4212	996500042217	RST CHIPR 22 OHM -5% 1/10W	061G0603220
R4213	996500042217	RST CHIPR 22 OHM -5% 1/10W	061G0603220
R4214	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R4215	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R4216	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R4217	996500044264	RST CHIP 150R 1/10W 1%	061G06031500F
R4218	996500042225	RST CHIPR 4.7KOHM -5% 1/10W	061G0603472
R4219	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R4220	996500042225	RST CHIPR 4.7KOHM -5% 1/10W	061G0603472
R4221	996500042225	RST CHIPR 4.7KOHM -5% 1/10W	061G0603472
R4222	996500042217	RST CHIPR 22 OHM -5% 1/10W	061G0603220
R5101	996500042225	RST CHIPR 4.7KOHM -5% 1/10W	061G0603472
R5102	996510009802	RST CHIP 2R2 1/10W 5%	061G0603229 T
R5102	996510009801	RSTR 2.2 OHM +-5% 1/10W YAGEO	061G0603229 Y
R5103	996510009801	RSTR 2.2 OHM +-5% 1/10W YAGEO	061G0603229 Y
R5103	996510009802	RST CHIP 2R2 1/10W 5%	061G0603229 T
R5104	996510009801	RSTR 2.2 OHM +-5% 1/10W YAGEO	061G0603229 Y
R5104	996510009802	RST CHIP 2R2 1/10W 5%	061G0603229 T
R5105	996510009802	RST CHIP 2R2 1/10W 5%	061G0603229 T
R5105	996510009801	RSTR 2.2 OHM +-5% 1/10W YAGEO	061G0603229 Y
R5106	996510009801	RSTR 2.2 OHM +-5% 1/10W YAGEO	061G0603229 Y
R5106	996510009802	RST CHIP 2R2 1/10W 5%	061G0603229 T
R5107	996510009802	RST CHIP 2R2 1/10W 5%	061G0603229 T
R5107	996510009801	RSTR 2.2 OHM +-5% 1/10W YAGEO	061G0603229 Y
R5108	996510009802	RST CHIP 2R2 1/10W 5%	061G0603229 T
R5108	996510009801	RSTR 2.2 OHM +-5% 1/10W YAGEO	061G0603229 Y
R5109	996500042225	RST CHIPR 4.7KOHM -5% 1/10W	061G0603472
R5110	996500042225	RST CHIPR 4.7KOHM -5% 1/10W	061G0603472
R5111	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R5112	996510009802	RST CHIP 2R2 1/10W 5%	061G0603229 T
R5112	996510009801	RSTR 2.2 OHM +-5% 1/10W YAGEO	061G0603229 Y
R5113	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R5114	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R5115	996500040053	RST CHIP 1K 1/10W 5%	061G0603102
R5116	996500042220	RST CHIPR 22 KOHM -5% 1/10W	061G0603223
R5117	996500042277	RST CHIPR 47 KOHM -5% 1/10W	061G0603473
R5118	996500042225	RST CHIPR 4.7KOHM -5% 1/10W	061G0603472
R5119	996500042225	RST CHIPR 4.7KOHM -5% 1/10W	061G0603472
R5120	996500042217	RST CHIPR 22 OHM -5% 1/10W	061G0603220
R5121	996500042217	RST CHIPR 22 OHM -5% 1/10W	061G0603220
R5122	996500042277	RST CHIPR 47 KOHM -5% 1/10W	061G0603473
R6101	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6102	996500044265	RST CHIP 12K 1/10W 5%	061G0603123
R6103	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6104	996500044265	RST CHIP 12K 1/10W 5%	061G0603123
R6105	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6106	996500044265	RST CHIP 12K 1/10W 5%	061G0603123
R6107	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6108	996500044265	RST CHIP 12K 1/10W 5%	061G0603123
R6109	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6110	996500044265	RST CHIP 12K 1/10W 5%	061G0603123
R6111	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6112	996500044265	RST CHIP 12K 1/10W 5%	061G0603123
R6201	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6202	996500042219	RST CHIPR 2.2 KOHM -5% 1/10W	061G0603222
R6203	996500042219	RST CHIPR 2.2 KOHM -5% 1/10W	061G0603222
R6204	996500044265	RST CHIP 12K 1/10W 5%	061G0603123
R6205	996500042665	RST CHIPR 470 KOHM -5% 1/10W	061G0603474
R6206	996500042665	RST CHIPR 470 KOHM -5% 1/10W	061G0603474
R6207	996500042665	RST CHIPR 470 KOHM -5% 1/10W	061G0603474
R6208	996500042665	RST CHIPR 470 KOHM -5% 1/10W	061G0603474
R6209	996500042665	RST CHIPR 470 KOHM -5% 1/10W	061G0603474
R6210	996500042665	RST CHIPR 470 KOHM -5% 1/10W	061G0603474
R6211	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6212	996500044265	RST CHIP 12K 1/10W 5%	061G0603123
R6213	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6214	996500044265	RST CHIP 12K 1/10W 5%	061G0603123
R6215	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6216	996500044265	RST CHIP 12K 1/10W 5%	061G0603123
R6217	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6218	996500040053	RST CHIP 1K 1/10W 5%	061G0603102
R6219	996500042217	RST CHIPR 22 OHM -5% 1/10W	061G0603220
R6220	996500042217	RST CHIPR 22 OHM -5% 1/10W	061G0603220
R6302	996500039751	0 OHM 1/8W	061G1206000
R6308	996500042225	RST CHIPR 4.7KOHM -5% 1/10W	061G0603472
R6309	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6311	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6312	996500042662	RST CHIP 330R 1/10W 5%	061G0603331
R6313	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R6314	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R6315	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R6316	996500042220	RST CHIPR 22 KOHM -5% 1/10W	061G0603223
R6317	996500042220	RST CHIPR 22 KOHM -5% 1/10W	061G0603223
R6318	996500042215	RST CHIPR 100 KOHM -5% 1/10W	061G0603104
R6319	996500042215	RST CHIPR 100 KOHM -5% 1/10W	061G0603104
R6320	996500042658	RST CHIPR 120 KOHM -5% 1/10W	061G0603124
R6323	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R6324	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6325	996500042220	RST CHIPR 22 KOHM -5% 1/10W	061G0603223
R6326	996500043962	RST CHIPR 39 KOHM -5% 1/10W	061G0603393
R6327	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R6328	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R6329	996500042220	RST CHIPR 22 KOHM -5% 1/10W	061G0603223
R6330	996500043962	RST CHIPR 39 KOHM -5% 1/10W	061G0603393
R6334	996500043973	10 OHM 1/10W	061G0805100
R7102	996500042215	RST CHIPR 100 KOHM -5% 1/10W	061G0603104
R7103	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R7104	996500042277	RST CHIPR 47 KOHM -5% 1/10W	061G0603473
R7105	996510004674	RST CHIPR 390 KOHM +-5% 1/10W	061G0603394
R7106	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R7107	996500040053	RST CHIP 1K 1/10W 5%	061G0603102
R7108	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R7113	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R7116	996500044038	RST CHIPR 220 KOHM -5% 1/10W	061G0603224
R7117	996500042277	RST CHIPR 47 KOHM -5% 1/10W	061G0603473
R7118	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101

R7120	996500040053	RST CHIP 1K 1/10W 5%	061G0603102
R7121	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R7122	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R7123	996500044038	RST CHIPR 220 KOHM -5% 1/10W	061G0603224
R7124	996500044266	RST CHIP 56K 1/10W 5%	061G0603563
R7125	996500042277	RST CHIPR 47 KOHM -5% 1/10W	061G0603473
R7126	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R7128	996500040053	RST CHIP 1K 1/10W 5%	061G0603102
R7130	996500044267	RST CHIP 75K 1/10W 5%	061G0603753
R7131	996500042254	RST CHIPR 33KOHM -5% 1/10W	061G0603333
R7132	996500042277	RST CHIPR 47 KOHM -5% 1/10W	061G0603473
R7135	996500039751	0 OHM 1/8W	061G1206000
R7201	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R7202	996500042225	RST CHIPR 4.7KOHM -5% 1/10W	061G0603472
R7203	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R7204	996500042656	RST CHIPR 10 OHM -5% 1/10W	061G0603100
R7205	996500040053	RST CHIP 1K 1/10W 5%	061G0603102
R7206	996500042219	RST CHIPR 2.2 KOHM -5% 1/10W	061G0603222
R7207	996500042656	RST CHIPR 10 OHM -5% 1/10W	061G0603100
R7208	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R7209	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R7210	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R7211	996500042664	RST CHIPR 47 OHM -5% 1/10W	061G0603470
R7213	996500042214	RST CHIPR 10 KOHM -5% 1/10W	061G0603103
R7301	996500043966	RST CHIPR 4.7 OHM -5% 1/10W	061G0603479
R7302	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R7303	996500043966	RST CHIPR 4.7 OHM -5% 1/10W	061G0603479
R7304	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R7305	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R7306	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R7307	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R7308	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R7309	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
R7310	996500042213	RST CHIPR 100 OHM -5% 1/10W	061G0603101
RP4201	996510003503	RST CHIP AR 8P4R 100 OHM +-5%	061G 125101 8
RP4202	996510003503	RST CHIP AR 8P4R 100 OHM +-5%	061G 125101 8
RP4203	996510003503	RST CHIP AR 8P4R 100 OHM +-5%	061G 125101 8
RP4204	996510003503	RST CHIP AR 8P4R 100 OHM +-5%	061G 125101 8

FB1101	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB1101	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB1102	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB1102	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB1103	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB1103	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB1104	996510002776	CHIP BEAD 120R/3000mA	071G56121TA
FB2101	996500042713	CHIP BEAD HCB3216K-101T30	071G57C101
FB2102	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB2102	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB2201	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB2201	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB2202	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB2202	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB2203	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB2203	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB2204	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB2204	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB2205	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB2205	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB2206	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB2206	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB2207	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB2207	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB2208	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB2208	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB2209	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB2209	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB2301	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB2301	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB2302	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB2302	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB2303	996500042238	CHIP BEAD 0603 30R/700mA	071G59K300TA
FB2303	996510004339	BEAD 30R/1000mA BLM18PG300SN1D	071G59D300MR
FB4101	996510004340	120R/3000mA HCB1608KF-121T30	071T 59A121 TA
FB4102	996510004340	120R/3000mA HCB1608KF-121T30	071T 59A121 TA
FB4103	996510004340	120R/3000mA HCB1608KF-121T30	071T 59A121 TA
FB4104	996510004340	120R/3000mA HCB1608KF-121T30	071T 59A121 TA
FB4105	996510004340	120R/3000mA HCB1608KF-121T30	071T 59A121 TA
FB4106	996510004340	120R/3000mA HCB1608KF-121T30	071T 59A121 TA
FB4107	996510004340	120R/3000mA HCB1608KF-121T30	071T 59A121 TA
FB4108	996510004340	120R/3000mA HCB1608KF-121T30	071T 59A121 TA
FB4110	996510004340	120R/3000mA HCB1608KF-121T30	071T 59A121 TA
FB4201	996510004340	120R/3000mA HCB1608KF-121T30	071T 59A121 TA
FB4202	996510004340	120R/3000mA HCB1608KF-121T30	071T 59A121 TA
FB5101	996510002776	CHIP BEAD 120R/3000mA	071G56121TA
FB6301	996510002776	CHIP BEAD 120R/3000mA	071G56121TA
FB6303	996510002776	CHIP BEAD 120R/3000mA	071G56121TA
FB6305	996510002776	CHIP BEAD 120R/3000mA	071G56121TA
FB6306	996510002776	CHIP BEAD 120R/3000mA	071G56121TA
FB7102	996500042265	IND FXD 0805 EMI 100MHZ 220R R	071G56A221TA
FB7104	996500042265	IND FXD 0805 EMI 100MHZ 220R R	071G56A221TA
FB7201	996510002776	CHIP BEAD 120R/3000mA	071G56121TA
FB7202	996510002776	CHIP BEAD 120R/3000mA	071G56121TA
FB7204	996510002776	CHIP BEAD 120R/3000mA	071G56121TA
FB7205	996510002776	CHIP BEAD 120R/3000mA	071G56121TA
FB7206	996510002776	CHIP BEAD 120R/3000mA	071G56121TA
L6301	996510002514	CHOKE 10uH 10%TSL0808S-100K2R6	073G 259900
L6302	996500042392	IND FXD TSL0808 S 33U PM10 B	073G259902
L6303	996500042392	IND FXD TSL0808 S 33U PM10 B	073G259902
L6304	996500042392	IND FXD TSL0808 S 33U PM10 B	073G259902
L6305	996500042392	IND FXD TSL0808 S 33U PM10 B	073G259902
L7101	996500042610	CHOKE COIL	073G253900HJ
L7101	996500043841	CHOKE COIL 35uH /-10% 82mohm	073G253900LS
L7102	996500042610	CHOKE COIL	073G253900HJ
L7102	996500043841	CHOKE COIL 35uH /-10% 82mohm	073G253900LS
L7103	996500042610	CHOKE COIL	073G253900HJ
L7103	996500043841	CHOKE COIL 35uH /-10% 82mohm	073G253900LS
L7104	996500043841	CHOKE COIL 35uH /-10% 82mohm	073G253900LS
L7104	996500042610	CHOKE COIL	073G253900HJ

D1101	996500044258	BAT54C PHILIPS	093G 60505
D1101	996500044259	BAT54C SOT23	093T 60230
D1102	996500035994	DIO SIG SM BAV99 (PHSE)R	093G6433
D1103	996500035994	DIO SIG SM BAV99 (PHSE)R	093G6433
D1104	996500035994	DIO SIG SM BAV99 (PHSE)R	093G6433
D5101	996500044259	BAT54C SOT23	093T 60230
D5101	996500044258	BAT54C PHILIPS	093G 60505
D5102	996500044258	BAT54C PHILIPS	093G 60505
D5102	996500044259	BAT54C SOT23	093T 60230
D7102	996500037793	DIODE S1D-E3 VISHAY	093G1020PH
D7104	996500037793	DIODE S1D-E3 VISHAY	093G1020PH
D7105	996500037793	DIODE S1D-E3 VISHAY	093G1020PH
ZD1101	996510003322	DIODE BZX84-C5V6 SOT-23 VISHAY	093G 39S901 T
ZD1101	996510003325	DIODE BZX84-C5V6 SOT-23PHILIPS	093G 39S911 T
ZD1102	996510003325	DIODE BZX84-C5V6 SOT-23PHILIPS	093G 39S911 T
ZD1102	996510003322	DIODE BZX84-C5V6 SOT-23 VISHAY	093G 39S901 T
ZD1103	996510003322	DIODE BZX84-C5V6 SOT-23 VISHAY	093G 39S901 T
ZD1103	996510003325	DIODE BZX84-C5V6 SOT-23PHILIPS	093G 39S911 T
ZD1104	996510003325	DIODE BZX84-C5V6 SOT-23PHILIPS	093G 39S911 T
ZD1104	996510003322	DIODE BZX84-C5V6 SOT-23 VISHAY	093G 39S901 T
ZD1105	996510003322	DIODE BZX84-C5V6 SOT-23 VISHAY	093G 39S901 T
ZD1105	996510003325	DIODE BZX84-C5V6 SOT-23PHILIPS	093G 39S911 T
ZD5101	996510003322	DIODE BZX84-C5V6 SOT-23 VISHAY	093G 39S901 T
ZD5101	996510003325	DIODE BZX84-C5V6 SOT-23PHILIPS	093G 39S911 T
ZD7101	996500037806	SURFACE MOUNT	093G60S801
ZD7102	996500037806	SURFACE MOUNT	093G60S801
ZD7103	996500037806	SURFACE MOUNT	093G60S801
ZD7104	996500037806	SURFACE MOUNT	093G60S801
ZD7303	996510003325	DIODE BZX84-C5V6 SOT-23PHILIPS	093G 39S911 T
ZD7303	996510003322	DIODE BZX84-C5V6 SOT-23 VISHAY	093G 39S901 T
ZD7304	996510003322	DIODE BZX84-C5V6 SOT-23 VISHAY	093G 39S901 T
ZD7304	996510003325	DIODE BZX84-C5V6 SOT-23PHILIPS	093G 39S911 T

Q5101	996510002479	BC847C	057G419513
Q5101	996510003458	TRA SIG SM BC847C (KEC0) R	057G 477900 T
Q5102	996510002479	BC847C	057G419513
Q5102	996510003458	TRA SIG SM BC847C (KEC0) R	057G 477900 T
Q6201	996500042211	TRA PDTC114EK SC-59 PHILIPS	057G7602PH
Q6201	996500037397	TRA SIG SM MUN2211J(ONSE)R	057G7601PH
Q6301	996510003458	TRA SIG SM BC847C (KEC0) R	057G 477900 T
Q6301	996510002479	BC847C	057G419513
Q7101	996500037397	TRA SIG SM MUN2211J(ONSE)R	057G7601PH
Q7101	996500042211	TRA PDTC114EK SC-59 PHILIPS	057G7602PH
Q7102	996510003458	TRA SIG SM BC847C (KEC0) R	057G 477900 T
Q7102	996510002479	BC847C	057G419513
Q7103	996500037397	TRA SIG SM MUN2211J(ONSE)R	057G7601PH
Q7103	996500042211	TRA PDTC114EK SC-59 PHILIPS	057G7602PH
Q7104	996510003458	TRA SIG SM BC847C (KEC0) R	057G 477900 T
Q7105	996500037398	FET POW SM SI5441DC(VISH)R	057G7631PH
Q7106	996510002479	BC847C	057G419513
Q7106	996510003458	TRA SIG SM BC847C (KEC0) R	057G 477900 T
Q7107	996500042211	TRA PDTC114EK SC-59 PHILIPS	057G7602PH
Q7107	996500037397	TRA SIG SM MUN2211J(ONSE)R	057G7601PH
Q7108	996500042211	TRA PDTC114EK SC-59 PHILIPS	057G7602PH
Q7108	996500037397	TRA SIG SM MUN2211J(ONSE)R	057G7601PH
Q7111	996500037398	FET POW SM SI5441DC(VISH)R	057G7631PH
Q7201	996510002479	BC847C	057G419513
Q7201	996510003458	TRA SIG SM BC847C (KEC0) R	057G 477900 T
Q7202	996510003458	TRA SIG SM BC847C (KEC0) R	057G 477900 T
Q7202	996510002479	BC847C	057G419513
U1101	996500042647	IC AT24C02BN-10SU-1.8 SO8	056T1133907
U1101	996500035965	M24C02-WMN6TP	056G113334
U4101	996500044268	IC MST96889LD-LF LQFP-256	056T 562911
U4106	996500044270	IC AP1702EWL SOT23	056T 643903
U4201	996500044271	HY5DU281622ETP-5 TSOPII-66	056G 615 51 1
U4201	996510004673	IC HY5DU281622FTP-5-C TSOPII66	056T 615902
U5101	996500042642	CM2021-00TR TSSOP-38	056T 662 3
U5101	996500042643	IC IP4776CZ38	056T 662900
U5102	996500035965	M24C02-WMN6TP	056G113334
U6201	996510003489	IC 74HC4052D PHILIPS	056T 614 1
U6301	996500044273	IC TPA3005D2PHP PQFP48	056G616901
U6303	996500042394	TPA6110A2DGBRG4 MSOP-8(DGN)	056G6168
U7101	996500044274	IC AIC1596-12PM5	056T563932
U7102	996500044275	IC AIC1596-33PM5 TO263-5	056T563927
U7104	996500044276	IC AME8815AEGT330Z SOT-223	056G 563903
U7105	996500044277	IC AIC1596-50PM5 TO263-5	056T563926
U7106	996500044278	IC AME8815AEGT180Z SOT-223	056G563902

U7107	996500044279	AME8815BEGT250Z SOT-223BY AME	056G 563 44
U7108	996500044277	IC AIC1596-50PM5 TO263-5	056T563926

PCB Assy

1054	996510004965	POWER PCB ASSY	ADPF24160R4P

Various

BD901	996500044288	BRIDGE GBU606 6A/600V GBU	093T 50460904
BD901	996500043858	BRIDGE 6A/600V GBU6J VISHAY	093G50460902
BD901	996510003552	Diode GBU605	093T504601AP
CN901	996510004668	AC SOCKET 20176	087T 501906 FP
CN915	996500043344	CON V 12P M 2.50 64842 B	033G3803 12 FP
F901	996500043852	FUSE 250V 4A by Littelfuse	084T 41 4
IC920	996500043861	IC UCC28051D SOIC-8	056T379902
IC950	996500043860	IC FA5541N SOP8	056T 379900
IC970	996500043859	IC LA5779L-HK TO-220	056T563939
IC990	996500040055	PC123 Y82FZ0F	056G1393B
IC990	996500040056	TCET1103G	056G1395A
IC990	996500036055	PC123Y22FZOF	056G1393A
IC991	996500040056	TCET1103G	056G1395A
IC991	996500036055	PC123Y22FZOF	056G1393A
IC991	996500040055	PC123 Y82FZ0F	056G1393B
IC995	996510002780	IC AZ431AZ-AE1 TO-92 BY AAC	056G 158 10 T
IC995	996500043819	IC TL431CZ-AP TO92	056G158900
NR901	996500043820	NTC 1R55 SCK101R55LSY	061G 58900 WT
T901	996500043851	XFMR PPH6004AL	080TL26T909LS
T901	996510002519	HJC-S6197 by HJC	080TL26T909 HJ
VAR901	996510002714	VARISTOR 510V TVR14511KFC4FY	061G46902

C900	996500043828	Y1 CAP 470PF -10% 250V AC KX	065T306K4712BM
C900	996500043827	470pF -10% 250VAC	065T306K4712B2
C900	996500043824	Y1 CAP 470pF -10% 250VAC CD	065G306K4712B3
C901	996500043828	Y1 CAP 470PF -10% 250V AC KX	065T306K4712BM
C901	996500043827	470pF -10% 250VAC	065T306K4712B2
C901	996500043824	Y1 CAP 470pF -10% 250VAC CD	065G306K4712B3
C905	996500043348	63G214J225GMC	063G214J225GMC
C905	996500043822	CAP MPP 2.2uF 450V 5%	063G214J225GMH
C907	996500043829	EC 120uF 450V PL 30x25mm	067G 40H12115K
C907	996500043832	EC 120uF 450V HS 30x26mm	067G 4012115C
C908	996500043821	0.47UF 275VAC	063G107474HS
C908	996500037794	Film capacitor	063G10747410S
C908	996500043838	MPX-474K27B15L3	063G107474U
C909	996500043838	MPX-474K27B15L3	063G107474U
C909	996500037794	Film capacitor	063G10747410S
C909	996500043821	0.47UF 275VAC	063G107474HS
C916	996500036041	CHIP 0.1U 50V X7R	065G080510432
C917	996500036041	CHIP 0.1U 50V X7R	065G080510432
C918	996500043826	Y1 CAP 2200PF M 250VAC CD	065G306M2222B3
C918	996500039731	2200PF -20% 250VAC	065G306M2222BM
C918	996500043825	2200PF -20% 250V AC	065G306M2222B2
C920	996500043889	CAP CHIP 0805 560P 50V NPO	065G080556131J
C920	996500043890	MLCC 0805 560PF G 50V NPO	065G080556131G
C921	996500043886	CHIP 2.2UF 16V Y5V	065G080522517
C922	996510004670	10NF/50V/0805/X7R	065G0805103 32
C923	996500036041	CHIP 0.1U 50V X7R	065G080510432
C924	996500043883	CHIP 22pF 50V NPO 0805	065G0805220 31
C925	996500036041	CHIP 0.1U 50V X7R	065G080510432
C927	996500037327	CHIP 1UF 50V Y5V	065G0805105 37
C927	996500043882	CHIP 1UF Y5V 0805	065G0805105 27
C930	996500043885	CAP CHIP 0805 22N 25V X7R	065G080522322K
C931	996510004233	CAP 0805 390P 50V NPO +/-10%	065G080539131K
C931	996500045148	CAPCHIP0805 390P 50V NPO /-5%	065G0805391J
C934	996500043910	105C RADIAL E-CAPACTOR 33uF50V	067G 3053307KT
C934	996500043909	105C RADIAL E-CAPACTOR 33uF50V	067G 3053307CT
C950	996500043883	CHIP 22pF 50V NPO 0805	065G0805220 31
C951	996500043884	CAP CHIP 0805 220P 50V X7R	065G080522132K
C952	996500043884	CAP CHIP 0805 220P 50V X7R	065G080522132K
C953	996500043887	CHIP 0.33UF 50V X7R	065G0805334 32
C954	996500043909	105C RADIAL E-CAPACTOR 33uF50V	067G 3053307CT
C954	996500043910	105C RADIAL E-CAPACTOR 33uF50V	067G 3053307KT
C955	996500037327	CHIP 1UF 50V Y5V	065G0805105 37
C959	996500043908	C CAP. 2200PF 500V 10% X7R	065G517K2229AV
C959	996500043907	C CAP. 2200PF 500V 10% X7R	065G517K2229AP
C959	996500043906	C CAP. 2200PF 500V PITCH 5.0mm	065G517K2224AT
C961	996500043823	F/C PPN 0.022uF 250V 5% HJC	064G 47J223 2H HJ
C964	996500044332	EC CAP 105 1000uF 35v	067G215S102 6K
C964	996500044331	EC 1000uF 35V GF 13x25mm	067G5151026C
C965	996500044331	EC 1000uF 35V GF 13x25mm	067G5151026C
C965	996500044332	EC CAP 105 1000uF 35v	067G215S102 6K
C966	996500044332	EC CAP 105 1000uF 35v	067G215S102 6K
C966	996500044331	EC 1000uF 35V GF 13x25mm	067G5151026C
C971	996500036041	CHIP 0.1U 50V X7R	065G080510432
C972	996500043463	EC 1000uF 25V LZ 10x20mm	067G215H1024C
C972	996500043836	LOW ESR EC 1000UF 25V EB1E102M	067G215H1024K
C972	996500043834	LOW ESR EC 1000UF EB1C102 16V	067G215H102 3K
C972	996500043833	EC 1000uF 16V LZ 10x16mm	067G215H102 3C
C973	996500036041	CHIP 0.1U 50V X7R	065G080510432
C974	996500036041	CHIP 0.1U 50V X7R	065G080510432
C975	996500042603	EC 220UF/35V KF 8*16mm	067G215P2216CT
C975	996500043830	EC CAP 220uF 35V 8*16mm	067G 4152216KT
C977	996500043889	CAP CHIP 0805 560P 50V NPO	065G080556131J
C987	996500036041	CHIP 0.1U 50V X7R	065G080510432
C987	996500044292	CHIP 0.1uF 50V X7R 0805	065T0805104 32
C988	996500044292	CHIP 0.1uF 50V X7R 0805	065T0805104 32
C988	996500036041	CHIP 0.1U 50V X7R	065G080510432
C991	996500036041	CHIP 0.1U 50V X7R	065G080510432
C995	996500043884	CAP CHIP 0805 220P 50V X7R	065G080522132K
C996	996500043888	0.22UF,K,50V,X7R	065G0805224 32

R901	996500043879	RST CHIPR 270 KOHM -5% 1/4W	061G1206274
R902	996500043879	RST CHIPR 270 KOHM -5% 1/4W	061G1206274
R903	996500043878	CHIP 240K OHM 1/4W	061G1206244
R910	996500043880	RST CHIPR 330 KOHM -1% 1/4W	061G1206330 3F
R911	996500043880	RST CHIPR 330 KOHM -1% 1/4W	061G1206330 3F
R912	996500043880	RST CHIPR 330 KOHM -1% 1/4W	061G1206330 3F
R913	996500043400	RST CHIP 620R 1/8W 1%	061G08056200F
R914	996500043398	RST CHIPR 5.6 KOHM -1% 1/8W	061G0805560 1F
R917	996500043390	RST CHIPR 22 KOHM -5% 1/8W	061G0805223
R918	996500042284	0 OHM 1/10W	061G0805000
R920	996500043902	RST MOF 0R15 1% 1W	061G208M15852T
R921	996500043877	RST CHIPR 6.2 KOHM -5% 1/8W	061G0805622
R922	996500043380	CHIP 1KOHM 1/10W	061G0805102
R924	996500043395	RST CHIPR 33 KOHM -5% 1/8W	061G0805333
R925	996500044294	RST CHIPR 47 OHM -5% 1/8W	061T0805470
R925	996500043874	RST CHIPR 47 OHM -5% 1/8W	061G0805470
R926	996500038141	10 OHM 5% 1/6W	061G 60210052T
R926	996500036987	100HM 5% 1/4W	061G17210052T
R927	996500043881	CHIP 820K OHM 1/4W 5%	061G1206824
R928	996500043881	CHIP 820K OHM 1/4W 5%	061G1206824
R929	996500043881	CHIP 820K OHM 1/4W 5%	061G1206824
R930	996500043868	RST CHIPR 16 KOHM -5% 1/8W	061G0805163
R931	996500042284	0 OHM 1/10W	061G0805000
R932	996500043901	7.5KOHM -5% 1/6W	061G 60275252T
R932	996500043898	7.5KOHM 5% 1/4W	061G 17275252T
R936	996500043381	10 KOHM 1/10W	061G0805103
R937	996500043393	RST CHIPR 330 OHM -5% 1/8W	061G0805331
R938	996500043869	CHIP 18 OHM 1/8W 5%	061G0805180
R939	996500043381	10 KOHM 1/10W	061G0805103
R940	996500043899	CFR 1K OHM -5% 1/6W	061G 60210252T
R940	996500043896	1K OHM 5% 1/4W	061G 17210252T
R942	996500043869	CHIP 18 OHM 1/8W 5%	061G0805180
R950	996500043903	RST MOF 0R33 5% 1W	061G208M33852T
R952	996500043899	CFR 1K OHM -5% 1/6W	061G 60210252T
R952	996500043896	1K OHM 5% 1/4W	061G 17210252T
R953	996500044295	RST CHIPR 150 OHM -5% 1/8W	061T0805151
R953	996500043867	RST CHIPR 150 OHM -5% 1/8W	061G0805151
R954	996500038141	10 OHM 5% 1/6W	061G 60210052T
R954	996500036987	100HM 5% 1/4W	061G17210052T
R955	996500043390	RST CHIPR 22 KOHM -5% 1/8W	061G0805223
R957	996500043900	130KOHM -5% 1/6W	061G 60213452T
R957	996500043897	130KOHM 5% 1/4W	061G 17213452T
R965	996500043379	RST CHIPR 100 OHM -5% 1/8W	061G0805101
R966	996500043379	RST CHIPR 100 OHM -5% 1/8W	061G0805101
R967	996500043380	CHIP 1KOHM 1/10W	061G0805102
R968	996500039749	100K 0805	061G0805104
R970	996500043896	1K OHM 5% 1/4W	061G 17210252T
R970	996500043899	CFR 1K OHM -5% 1/6W	061G 60210252T
R971	996500043870	RST CHIPR 19.6 KOHM -1% 1/8W	061G0805196 2F
R972	996500044296	RST CHIP 2.2K 1/8W 1%	061T0805220 1F
R972	996500043389	RST CHIPR 2.2KOHM -1% 1/8W	061G08052201F
R974	996500044297	RST CHIPR 10 KOHM -5% 1/8W	061T0805103
R974	996500043381	10 KOHM 1/10W	061G0805103
R979	996500043875	RST CHIPR 4.7 KOHM -1% 1/8W	061G0805470 1F
R990	996500043872	RST CHIPR 2.2KOHM -5% 1/8W	061G0805222
R991	996500043876	RST CHIPR 4.7 KOHM -5% 1/8W	061G0805472
R992	996500042284	0 OHM 1/10W	061G0805000
R994	996500039749	100K 0805	061G0805104
R995	996500043873	RST CHIPR 39 KOHM -1% 1/8W	061G0805390 2F
R996	996500043875	RST CHIPR 4.7 KOHM -1% 1/8W	061G0805470 1F
R998	996510004669	RST CHIPR 20.5KOHM +-1% 1/8W	061G0805205 2F

FB900	996510002511	FER. CORE 35R W5 RH 2.5X3X1.0	071G55902
FB900	996500040066	FERRITE CORE 2.5*3*1 BF30TA-2	071G55901
FB901	996510002511	FER. CORE 35R W5 RH 2.5X3X1.0	071G55902
FB901	996500040066	FERRITE CORE 2.5*3*1 BF30TA-2	071G55901
FB902	996510002511	FER. CORE 35R W5 RH 2.5X3X1.0	071G55902
FB902	996500040066	FERRITE CORE 2.5*3*1 BF30TA-2	071G55901
FB903	996500043357	FERRITE BEAD	071G55906
FB903	996500043839	FERRITE BEAD ZBF094T-T125S-A	071G55900
FB904	996500043839	FERRITE BEAD ZBF094T-T125S-A	071G55900
FB904	996500043357	FERRITE BEAD	071G55906
FB918	996510002511	FER. CORE 35R W5 RH 2.5X3X1.0	071G55902
FB918	996500040066	FERRITE CORE 2.5*3*1 BF30TA-2	071G55901
FB960	996500040066	FERRITE CORE 2.5*3*1 BF30TA-2	071G55901
FB960	996510002511	FER. CORE 35R W5 RH 2.5X3X1.0	071G55902
FB961	996510002511	FER. CORE 35R W5 RH 2.5X3X1.0	071G55902
FB961	996500040066	FERRITE CORE 2.5*3*1 BF30TA-2	071G55901
FB962	996500040066	FERRITE CORE 2.5*3*1 BF30TA-2	071G55901
FB962	996510002511	FER. CORE 35R W5 RH 2.5X3X1.0	071G55902
FB963	996500040066	FERRITE CORE 2.5*3*1 BF30TA-2	071G55901
FB963	996510002511	FER. CORE 35R W5 RH 2.5X3X1.0	071G55902
L901	996500043847	LINE FILTER 6mH 1.8A HJC-S4201	073G174902HJ
L901	996500043848	LINE FILTER 6mH 2.0A	073G174912LS
L903	996510004967	430uH 0R19 LS-PH04D-001LF A	073G 174906 LS
L903	996500043843	PFC CHOKE 430uH 0R19 HJC-S6196	073T 174906 HJ

L910	996500043849	LINE FILTER 11mH 3.5A	073T 174914 HJ
L910	996500043850	LINE FILTER 11mH 3.5A	073T 174914 LS
L966	996500043845	CHOKE COIL 15uH /-10% 260mohm	073T253907HJ
L966	996500043846	CHOKE COIL 15uH /-10% 26mohm	073T253907LS
L966	996510002517	CHOKE COIL 15uH10% 26mohm	073T 253907 H
L966	996500043361	IND FXD OL1028H S 15U PM10 Y	073G253907T
L970	996500043841	CHOKE COIL 35uH /-10% 82mohm	073G253900LS
L970	996500042610	CHOKE COIL	073G253900HJ
L983	996500043360	IND FXD OL1028H S 10U PM10 Y	073G253906T
L983	996500043844	CHOKE COIL 10uH /-10% 14.6mohm	073T253906LS
L983	996510002516	CHOKE COIL 10uH10% 14.6mohm	073T 253906 H
L983	996500043842	CHOKE COIL 10uH /-10% 17mohm	073G 253904 HJ

D901	996500043857	Diode STTH5L06FP TO-220FP	093G220901
D926	996500043891	MLL4148 SMD	093G6432U
D926	996510003321	LL4148-GSO8	093G 6432V
D926	996500036035	LL4148WP	093G6444S
D934	996500043435	DIO REC BYT42D A (VISH) A	093G60905
D934	996500043436	DIO REC RGP10D A (GULF) A	093G6490352T
D934	996500040067	RGP10-DO-204AL	093G645152T
D935	996500043436	DIO REC RGP10D A (GULF) A	093G6490352T
D935	996500040067	RGP10-DO-204AL	093G645152T
D935	996500043435	DIO REC BYT42D A (VISH) A	093G60905
D950	996500043436	DIO REC RGP10D A (GULF) A	093G6490352T
D950	996500040067	RGP10-DO-204AL	093G645152T
D950	996500043435	DIO REC BYT42D A (VISH) A	093G60905
D951	996500040067	RGP10-DO-204AL	093G645152T
D951	996500043435	DIO REC BYT42D A (VISH) A	093G60905
D951	996500043436	DIO REC RGP10D A (GULF) A	093G6490352T
D953	996500036035	LL4148WP	093G6444S
D953	996500043891	MLL4148 SMD	093G6432U
D953	996510003321	LL4148-GSO8	093G 6432V
D955	996500036035	LL4148WP	093G6444S
D955	996510003321	LL4148-GSO8	093G 6432V
D955	996500043891	MLL4148 SMD	093G6432U
D957	996500043426	TRANSIENT SUPPRESSOR 120V 5W	093G3990052T
D957	996500043434	DIODE P6KE120A DO-15	093G3991952T
D958	996500043438	DIO REC STTH110 (ST00) A	093G110090252T
D958	996500043437	DIODE UF1007 1A 1000V DO-41	093G110090052T
D959	996500043434	DIODE P6KE120A DO-15	093G3991952T
D959	996500043426	TRANSIENT SUPPRESSOR 120V 5W	093G3990052T
D960	996500043855	DIODE MBRF10150CT 10A/150V	093G 60294
D960	996500036034	SP10150	093G60245
D960	996500043856	Diode MBRF10150CT TSC	093G60903
D961	996500043856	Diode MBRF10150CT TSC	093G60903
D961	996500043855	DIODE MBRF10150CT 10A/150V	093G 60294
D961	996500036034	SP10150	093G60245
D970	996510002828	DIODE SB240 DO-41	093G 52900
D970	996500043905	SB240-13-F DO-41	093G 523DI26T
D970	996500043904	SB240	093G521ZJ26T
ZD935	996500043895	RLZ15B	093T39S15T
ZD935	996500043893	RLZ15B	093T39GA03T
ZD965	996500043892	RLZ27B LLDS	093G39S42T
ZD966	996500043894	ZENER DIODE RLZ13B SEMTECH	093T39GA28T
ZD966	996500039777	RLZ 13B LLDS	093G39S40T

Q901	996500043865	TRA STP25NM60N 20A/600V TO-220	057G667902
Q901	996500043863	MOSFET_20A/600V_STP20NM60	057G 667 31
Q901	996500043862	MOSFET_20A/600V_FCP20N60	057G611900
Q902	996500043864	MOSFET_9A/800V_STP10NK80ZFP	057G66732
Q936	996510002478	PMBS3906/PHILIPS-SMT(06)	057G 417 6
Q936	996500035967	KEC 2N3906S-RTK/PS	057G41713T
Q988	996500036033	RK7002	057G7592
Q988	996500042650	2N7002ESOT23 SILICONIX	057G 758 1
Q988	996500042651	TRA FET 2N7002 SOT-23 PHILIPS	057G763904
Q992	996500042651	TRA FET 2N7002 SOT-23 PHILIPS	057G763904
Q992	996500036033	RK7002	057G7592
Q992	996500042650	2N7002ESOT23 SILICONIX	057G 758 1
Q993	996500036961	KEC 2N3904S-RTK/PS	057G 417 12 T
Q993	996500035966	PMBS3904/PHILIPS-SMT(04)	057G4174
Q993	996500040045	TRA SIG SM MMBT3904 (PHSE) R	057G417903T

PCB Assy

1055	996510004964	SIDE AV PCB ASSY	PTPF7PA8

C031	996500042722	CAP CHIP 0603 6N8 50V X7R	065G060368232K
C032	996500042722	CAP CHIP 0603 6N8 50V X7R	065G060368232K

R031	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R032	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R035	996500042212	RST CHIPR 0 OHM -5% 1/10W	061G0603000
R037	996500043487	RST CHIPR 3.3 KOHM -5% 1/10W	061G0603332
R038	996500043487	RST CHIPR 3.3 KOHM -5% 1/10W	061G0603332
R039	996500042277	RST CHIPR 47 KOHM -5% 1/10W	061G0603473
R040	996500042277	RST CHIPR 47 KOHM -5% 1/10W	061G0603473
R041	996500042277	RST CHIPR 47 KOHM -5% 1/10W	061G0603473
R042	996500042277	RST CHIPR 47 KOHM -5% 1/10W	061G0603473

FB031	996500036567	CHIP BEAD	071G56K121M
FB032	996500036567	CHIP BEAD	071G56K121M

PCB Assy

1056	996500044235	IR PCB ASSY	IRPF7PA4

Various

U0201	996500042727	IC TSOP34136SB1	056G627801
SW0201	996500040052	SWI TACT H=5 GY 160G SKHHAM B	077G6051FD
LED0201	996500042729	LED VS L-3WSYKPBW	081G128KB

Q0203	996500037785	TRA SIG SM BC857CG (ONSE) R	057G420519T
Q0203	996500040046	BC857 SOT23	057G761900T
Q0203	996500043378	TRA SIG SM BC858CLG (ONSE) R	057G420902T

PCB Assy

1057	996500044236	KEY BOARD ASSY	KEPF7PA4

Various

SW0101	996500042279	TACT SW BY FORWARD	077G6072FD
SW0102	996500042279	TACT SW BY FORWARD	077G6072FD
SW0105	996500042279	TACT SW BY FORWARD	077G6072FD

11. Revision List

Manual xxxx xxx xxxxx.0

- First release.